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PARTURIENT APOPLEXY IN COWS—A FORM OF SEPTICÆMIA.

BY A. HARRISON THOMAS, M.B., C.M., B.SC., ETC., WHITTINGHAM, PRESTON.

HAVING recently had an opportunity of observing an outbreak of Milk Fever that had assumed almost the proportions of an enzoötic, I was struck by the similarity in symptoms and *post-mortem* lesions to those found in cases of Septicæmia. Led by this resemblance, I examined, microscopically, various organs of several of the cases, and found that bacteria were universally present. Veterinary authors speak of two or three febrile conditions as occurring in cows shortly after parturition; but Parturient Apoplexy is usually held to differ from the other varieties in its pathology, although perhaps not greatly in its symptoms. At the same time, it is acknowledged that there is much need for further investigation with regard to it. Before speaking of the pathology of the disease, I will first describe, shortly, the chief symptoms and *post-mortem* lesions observed in some of the cases occurring this year.

Case I. Cow, No. 365, aged six years; calved June 29th at 2.30 a.m., labour being easy and natural, and the after-birth coming away freely. She gave 33 lbs. of milk this day, and seemed in perfect health when left for the night. Next morning at five was found lying on her side, quite comatose; this condition seemed to pass off to some extent at times during the day, as she made several efforts to rise; there appeared to be considerable headache, and she moaned and sighed occasionally all the day. There was no real paralysis, as she was able to move her limbs when disturbed. The udder was free from heat or swelling, and

there was little or no secretion of milk. The pulse was extremely feeble, being almost imperceptible, and she remained in this collapsed and prostrate condition all the day. Towards evening the coma became more profound, and the respiration shallower, and she died at 10.30. Thus the onset of the disease was within twenty-four hours after calving, and its duration was probably not much more than eighteen hours.

The *post-mortem* examination was made next morning. The subcutaneous connective tissue was congested; the heart uncontracted, and its cavities, together with the systemic veins, filled with dark, soft clots; lungs contained a few small areas of congestion; omentum had a number of ecchymosed patches, the largest being about 3 by 1½ inches; at these places the omentum was much thickened, but there was no inflammatory exudation on its surface. Rumen full of food; intestines empty, and in some places the mucous membrane was congested; spleen and kidneys apparently normal; liver pale, soft, and friable. The interior of the uterus was quite healthy, and did not contain any remnant of the decidua; but around the cervix the connective tissue was much congested. The cerebral membranes were slightly congested, and the pia mater closely adherent to the cortex cerebri; the membranes of the spinal cord had one or two small areas of congestion.

Case II. Cow, No. 323, calved September 28th; made a good recovery, and gave twenty-nine to thirty-one pounds of milk daily, up to October 6th. She was apparently in her usual health on the evening of October 7th, but was found dead at five o'clock next morning. Thus the onset of the disease was delayed until the tenth day after calving; but it was rapidly fatal, death taking place within six or seven hours. It is worthy of note that this cow was down with Milk Fever ten days after her previous calving, but on that occasion, she recovered within a day or two.

At the *post-mortem* examination, there was found extensive disease of a similar character to that noted in the previous case; there were ecchymoses and petechial spots distributed universally throughout the connective tissues—around the root of the aorta, beneath the pericardium and endocardium, in the mucous membrane of the larynx and trachea, and in the intermuscular connective tissue of every part of the body. In the uterus was a small quantity of putrid fluid, and at the cervix uteri was an ulcer the size of a crown-piece.

Case III. Cow, No. 179, calved Oct. 13th at 9.30 a.m. She seemed to be quite well all the day, and when left for the night; but next morning at five was staggering about and occasionally falling: at seven she fell and was unable to rise; at this time she

seemed very excited, swaying and tossing the head, and was sweating profusely. In the afternoon she became quieter, but was not in any way comatose; there was much thirst, and she was able to raise her head a little in order to drink; extremities warm; pulse rapid but small, and almost imperceptible; respiration shallow and very rapid—120-130 per minute; vulva swollen and a little sanious discharge issuing therefrom. She became worse during the night and comatose, and died at one next morning. In this case the onset was about eighteen hours after parturition, and the duration about forty-four hours.

Post-mortem thirteen hours after. Putrefactive changes were advanced, although the weather was not warm; all the subcutaneous connective tissues were deeply congested; heart uncontracted and full of dark soft clot.

Case IV. Cow, No. 335, age eleven years; calved (twins) Oct. 24th, at seven a.m., parturition easy and natural. Seemed to be quite well when left for the night, but at three next morning was down; she got up occasionally until eleven, when she was no longer able to rise. She shortly became very drowsy, and was with difficulty roused to take nourishment, but there was no coma and no paralysis; respiration easy; pulse rapid and very feeble This condition continued during the next two days, but she became comatose, and died on the third day, in the afternoon. Here the onset took place within four or five hours after labour, and the duration was about ninety hours.

Post-mortem held next morning. Although the weather was rather cold, putrefaction had advanced to a considerable degree; the thoracic and abdominal viscera were much decomposed, the kidneys being hardly recognisable, and the spleen a mere bag of putrid fluid. It will be observed that the symptoms in each of these cases were of the adynamic type—lethargy, deepening into coma, followed by death from Cardiac Syncope. There were six other cases during the year presenting similar symptoms; but the animals seemed to be less severely affected, and recovered in a day or so. There was not observed in any of the cases the sudden abolition of consciousness and power of motion indicative of hæmorrhage into the brain, or true apoplexy; nor did the symptoms resemble the apoplectic state consequent upon cerebral congestion. In apoplexy there is always paralysis, greater or less in degree, and more or less permanent, according to the seat and extent of the hæmorrhage, and the coma is accompanied by a slow full pulse; whilst in the cases under notice, there was no true paralysis at all, and the pulse in every instance was rapid, feeble, and almost imperceptible. In the *post-mortem* examination, also, the brain was carefully examined in one case and less closely in

another, and in neither was there found any trace of hæmorrhage or of active congestion; the membranes were passively congested to a slight degree, but this was only because of their participation in the general venous congestion, and perhaps, to some extent, also to gravitation. But as the symptoms during life resemble those found in Puerperal Septicæmia in the human subject, so also the *post-mortem* lesions are very characteristic—the dark imperfectly coagulated blood; the congestions of various organs, especially the lungs; the petechiæ and ecchymoses; the softening of the liver and spleen; and the rapid putrefaction. The fact that an animal having recovered from one attack is specially prone to a second attack, under similar conditions, is also in favour of its being of zymotic origin; and this view is further strengthened by the circumstance that, whilst some farms have perfect immunity from the disease, others have a succession of cases, as in the farm, where the above instances occurred, in which, out of seventy-one cows calving during the year, ten became affected with Milk Fever. I took portions of tissue from various parts of each case, as mentioned above, and after hardening them, examined sections microscopically; in all of them, including those of the spinal cord, I found vast numbers of bacteria present. There seemed to be two kinds, distinguishable chiefly by their size: a large variety of about the same length as Bacillus anthracis, but twice as broad, and a smaller kind. The former resembled very closely the bacilli of Davaine's Septicæmia, and the latter were similar to them except in size. Both kinds were granular in their interior, and seemed to have greater affinity for methylen-blue than for any other dye.

Although it cannot be claimed that the presence of bacteria in the organs after death is in itself absolute proof that they were the cause of the disease, yet this, together with the fact of the symptoms and *post-mortem* lesions being so characteristic of bacterial invasions, renders it at least highly probable that such is the nature of the affection.

As to the origin, this is probably to be found in the surroundings of the animal; as untrapped drains, accumulations of filth, insufficient ventilation, and perhaps sometimes in direct contagion, or infection from pre-existing cases.

As regards treatment, no remedy against Septicæmia has yet been found; the best hope lies in the careful nursing of the animal, so that its vital powers may be sustained until the fever is past.

THE VALUE OF INOCULATION IN PLEURO-PNEUMONIA, AS DISCLOSED BY *POST-MORTEM* EXAMINATION OF THE VICTIMS.

BY JAMES MC CALL, F.R.C.V.S., PRINCIPAL OF THE GLASGOW VETERINARY COLLEGE.

(*Continued from vol.* xxvii., *p.* 242.)

In a prior number of this Journal I gave the details of an outbreak of Pleuro-pneumonia which had occurred in my practice in Glasgow, and where inoculation had been performed on the animals by Mr. Rutherford, of Edinburgh. The details as stated were a reprint from the epitome of evidence published and circulated by the Highland and Agricultural Society of Edinburgh. I also gave an epitome of the evidence given by Mr. Rutherford before the Departmental Committee of the Privy Council, in so far as it called my evidence in question, and as promised in the concluding sentence of the last article published in this Journal: "I shall (now) refer, in the first place, to the objections which Mr. Rutherford has taken to my evidence; and in the second place, I shall give in detail the history of a recent outbreak of Pleuro-pneumonia on the same premises; and I shall by *post-mortem* and other evidence prove that Mr. Rutherford's inoculation of Salmond's stock in February, 1887, not only did not arrest the spread of the disease at that time, but that it actually carried it on, and was the cause of a second outbreak in June, 1888."

Mr. Rutherford's Objections.

In answer to Mr. Bowen Jones: Do you agree with Mr. McCall in this: "According to Mr. Rutherford this animal was successfully inoculated, the tail was amputated, and it was considered safe"?—No.—You do not agree with Mr. McCall in that statement?—No, I do not.—Do you admit that the animal was inoculated?—Yes.—Do you admit that the animal contracted disease?—There I do not admit the correctness of Mr. McCall's statement.—The statement referred to by both gentlemen, in order to its comprehension, must be read in conjunction with a prior statement, and for accuracy I shall deal with it first, and it is as follows: "On 17th February I visited the byre, and found a cow showing symptoms of Pleuro. This was one of those inoculated on the 9th, and on *post-mortem* both lungs were found to be affected. Mr. Rutherford said the inoculation had not taken. The explanation in this case was that the animal had not taken the inoculation, and that it had been affected with the disease before inoculation. Mr. Rutherford saw it before being slaughtered." Now, did Mr.

Rutherford see that animal? and did he make the statement to me which I have attributed to him?—His memory cannot play him false, for it was the first animal which was taken out of the stock, exactly eight days after the first inoculation was practised by him on the herd.—I again affirm that he was present, and voluntarily made the statement I have placed to his credit, and he made it after he had examined the tail of each animal he had operated on the previous week. That the animal's lungs on *post-mortem* were found diseased is a fact, and I ask Mr. Rutherford to accept it as such, or show cause to the contrary, not only in this case, but in all the cases that are to follow. Now to the statement more particularly referred to, and it is, "On March 1st I required to take another cow and kill it, and I found both lungs bad. This animal was inoculated on the 9th (February). According to Mr. Rutherford it was successfully inoculated, the tail was amputated, and it was considered safe; so that if the cow of the 17th (found affected with Pleuro) was confirmatory of the fact that when an animal contracts Pleuro-pneumonia by the natural method it cannot be inoculated, the case of the 1st March was the very reverse. Both lungs were bad. With the others, it had the tail amputated, was considered free of disease, and still it succumbed to the disease. It was one of those in the byre when the disease first broke out. The tail of the animal was amputated on the 16th, and on the 28th I found the animal showing symptoms of the disease, and it was killed on 1st March."

That the facts are as I have stated, I again ask Mr. Rutherford to acknowledge or disprove. Regarding the inference I have drawn from his own statement, I consider it is a fair one, but like a few other statements he has made, it has no foundation in fact. Most positively he asserted to me that "when an animal contracts Pleuro-pneumonia by the natural method it cannot be inoculated," but his own practice on his own patients falsifies the statement, and I affirm that the acceptance or rejection of inoculation by a bovine animal is no part of its being free of Pleuro-pneumonia, or actually labouring under the malady at the moment of inoculation. But to return: Mr. Rutherford does "not admit the correctness of Mr. McCall's statement," and in answer to the next question, "Do you know the animal I allude to?" admits, "I do not. Now I will tell you why I do not know the animal. Mr. Salmond is a very old gentleman, not able to manage his own business. His son manages it for him." What inference Mr. Rutherford desires to be drawn from the reference he has made to the "very old gentleman and his son" I don't know, but when the reader is informed that the son is nearly as old as Mr. Rutherford, and quite as alive to his pecuniary interests, probably he will agree with me that the

son has no reason to feel proud of the compliment Mr. Rutherford has so publicly conferred on him.

When further crossed in his examination by Sir George Macpherson Grant regarding the same cow, Mr. Rutherford admits that it was inoculated by him, but that it was not successfully inoculated. That is a truth, but it was unknown to Mr. Rutherford when he gave the finishing-touch to his operation by docking the tail. That animal was affected before Mr. Rutherford inoculated it, and he was in complete ignorance of the presence of the disease.

Chairman: You said if you inoculated an animal with Pleuro-pneumonia in its system the disease would develop itself in three weeks?—Yes, it would; generally earlier.—Will Mr. Rutherford be kind enough to state the proof for fixing the period within three weeks, and at same time reconcile it with the further statement he has made?—I only inoculate those that I am satisfied are not diseased. All suspects must go down. Is it true, then, that in Mr. Salmond's outbreak in Glasgow, referred to by Mr. McCall, that although you inoculated on February 9th, cases occurred as late as the 9th of April, two months after inoculation?—That statement does not convey to you the actual facts of the case. It is an incomplete statement, very incomplete indeed, and a very misleading statement. There were actually three lots of cows in that man's premises; that is to say, there was the lot that I inoculated; there was a lot that was left simply because they were unfit for inoculation, and were subsequently inoculated; and there was the lot that he purchased in, to be inoculated immediately after the outbreak was reported.

Errors in judgment we all make, and in the drawing of inferences there is room to honestly differ, but in inventing and disseminating "a very misleading statement" there is no excuse. It is a dastardly act, and I shall now attempt to purge myself from the imputation. In my evidence I am reported to have said, "On 9th February Mr. Rutherford inoculated Salmond's cows, and also the cow in calf and the two yearling heifers belonging to me. He first of all took the temperature of all the animals, to see whether they were in health. On completing his examination he said there was only one above the normal, etc. I said, 'Are you satisfied that you have got all the others fit subjects for inoculation?' He said, 'Yes.' Mr. Rutherford inoculated all the other animals that he considered fit subjects, but there were several cows he did not inoculate, as they were about to calve or had calved within eight days. On the same day (9th February) Mr. Salmond said, 'If you will allow me, we will buy some cows and put them into the byre,' etc. He purchased three cows at the Wishaw sale, and five at the Paisley sale, for the purpose of being inoculated and thoroughly protected."

I now call upon Mr. Rutherford to point out and explain what is very misleading in that statement. Mr. Rutherford says, "There actually were three lots of cows in that man's premises—the lot that I inoculated, the lot that was left, and were subsequently inoculated, and the lot purchased to be inoculated," and in making these statements he only reiterates what I had said, and I therefore call upon him to point out what is misleading in my statement or withdraw the charge.

Chairman: I want to ask you whether any of the cattle inoculated on February 9th showed the disease on April 9th. —Yes, they did; but they were reported by me not many days after the inoculation to the owner. They were pointed out by me to the owner, for him to do his part; that is to say, bring them to Mr. McCall's notice. He never did so, and I do not think Mr. McCall was attending the byres as closely as I was. I was in the byres every other day, almost.

Leaving these graceful and generous remarks to be dealt with hereafter, I shall now enumerate the order in which the cows after inoculation presented symptoms of Pleuro-pneumonia and required to be slaughtered:—

No. 1	cow,	slaughtered	February	17,	inoculated	February	9,	1887.
„ 2	„	„	March	1,	„	„	9,	„
„ 3	„	„	„	4,	„	„	9,	„
„ 4	„	„	„	4,	„	„	9,	„
„ 5	„	„	„	7,	„	„	17,	„
„ 6	„	„	„	7,	„	„	17,	„
„ 7	„	„	„	15,	„	„	9,	„
„ 8	„	„	„	22,	„	„	17,	„
„ 9	„	„	April	4,	„	„	16,	„

Also on 24th and on 29th of February.

The last cow referred to is one of the three cows purchased at Wishaw sale to prove the value of preventive inoculation, but strange to say, it was placed in the byre, and thus allowed to inhale the virus for eight days prior to inoculation. Can Mr. Rutherford reconcile this case, and for that part of it any of the other cases, with the following statements which he has made? "Successful inoculation confers immunity. I mean by successful inoculation that the operation shall be carried out in a proper manner. I have reason to know that it is very improperly performed. I have never known an animal successfully inoculated succumb or even contract the disease. Inoculation arrests it at that stage (incubation), for at that time there is no lung lesion. It is absolutely necessary that your operators are thoroughly up in their work, but there would be difficulty in finding such gentlemen at present. I would appoint them only by examination. My experience enables me to detect quite well what are the appearances

of a successful inoculation, but the fear is of inoculation falling into wrong hands. If animals are inoculated, and still take the disease, it is the fault of the operator"!

While waiting Mr. Rutherford's reply I may be allowed to say that surely he never intended these remarks to be put in print and scanned by his professional brethren, for they are not only a direct insult to them, but a tissue of "very misleading statements."

As an operation, inoculation in Pleuro-pneumonia is one of the most simple the veterinarian has to perform. Professor Williams, in his examination, is reported to have said, "Anybody could inoculate," and certainly he cannot be much of a veterinarian who cannot introduce a seton to a cow's tail. So much for the operation; now for the result. Mr. Rutherford says, "If animals are inoculated, and still take the disease, it is the fault of the operator." Is this penned in ignorance, or with the desire to mislead? In either case it is "a very misleading statement."

The two principal factors in the success of the operation are, firstly, the immunity of the animal to be operated on from an attack of Pleuro-pneumonia by the natural method, in other words, free of infection; secondly, a pure and living virus wherewith to inoculate the animal; and neither Mr. Rutherford nor any other man in the veterinary profession knows at the time of operation, nor for some weeks after, whether or not he has had these two factors. Can Mr. Rutherford recognise an animal in the incubative stage of Pleuro-pneumonia? or can he, with the aid of the microscope, recognise the Pleuro virus from any other virus, or say that its organisms are alive or dead? No, he cannot, and yet he has the audacity to assert that "if animals are inoculated, and still take the disease, it is the fault of the operator."

If it is so, how is he to reconcile his failures in those instances I have enumerated, and in those yet to follow? No professional fee can be due for performing an operation where failure "is the fault of the operator," and it would be interesting to know if Mr. Rutherford has always acted in conformity with the doctrine.

Now to the charge made against me of want of attention and undue delay in removing affected animals. It is true the owner did not desire me to remove his cows; nay, I think I may venture to assert that his desire was in the opposite direction, and I have no hesitation in charging Mr. Rutherford with the same desire.

In the performance of my duties as inspector under the Act I neither ask nor expect assistance nor guidance from the owner of the stock which has been placed under restrictions. It is my duty to guide and direct, and I have always done so, and I ask no one to share the responsibility; but was I remiss in the removal of the affected cows? By a reference to the table of removal of animals

it will be seen that one cow (and the first animal after inoculation) was removed for slaughter on 17th February, another on 1st of March, other two on 4th March, other two on 7th March, one on the 15th, and one on the 22nd of March, and lastly one on 4th April. (*To be continued.*)

DISLOCATION OF THE KNEE, WITH FRACTURE OF SOME OF THE SMALL BONES.

BY F. J. SHORT, A.V.D., ALDERSHOT.

On the 26th of June last, about 9.30 p.m., I was called to see troop mare G 53, 18th Hussars, and on arrival at the stable about an hour after, I found her standing outside with the off fore leg flexed and foot raised, the toe only touching the ground now and then. From the knee downwards the limb was swollen to double its normal size, and extending four inches upwards from the knee, in front of the radius, was a puffy swelling, evidently consisting of extravasated blood. That part of the limb below the knee could be moved about to a certain extent in any direction when the lower extremity of the radius was made a fixed point. On manipulation, the trapezium was found detached from the lower row of carpal bones, but still attached to the upper row, these latter being adherent and fixed to the radius. The lower row, with the metacarpus, was fixedly locked in such a position that the inferior extremity of the radius, along with the upper row of carpal bones, was projecting a good inch to the outside of the lower row and metacarpus. Traction and manipulation in attempting to reduce the dislocation caused most intense pain, and it was then that cripitus, pointing to fracture, was distinctly heard, and it was at once decided to destroy her.

Post-mortem Examination.—Abrasion of skin on middle of outer face of metacarpus. Sections of the swellings above and below the knee showed them to have been the result of most extensive hæmorrhage. There was rupture of and effusion of blood into the sub-carpal ligaments and those connecting the posterior face of the carpal bones, and also of the lateral ligaments and those connecting the inferior face of trapezium to the metacarpus, and a considerable portion of the outer splint bone was torn away, with the ligaments attached. The projection on the posterior face of the os lunare was broken off, as well as the upper and inner portion of the scaphoid, *i.e.*, that facing the lunare. The upper row of carpal bones projected forward an inch and a half over the lower row, and also to the extent of two inches to the outside, so that the inner half of the lunare was placed well over the unciform.

This case is, I think, unique and worth recording, owing to its

rarity and the peculiar circumstances attending its cause. The mare being found cast in her stall with head below the iron manger and hay-rack, the collar-chain wound round the injured limb, and a patch of whitewash on her nose, may indicate that in rearing to free her leg from the chain, the sudden jerk caused by the leg stopping her from rearing further, snapped the knee when falling, when probably at the same time the foot came into violent contact with the ironwork.

NOTE ON CHLOROFORM.

BY F. RAYMOND, F.R.C.V.S., F.R.M.S., ETC., ARMY VETERINARY DEPARTMENT.

A YEAR ago, I had the honour to read a paper before the Central Veterinary Medical Society of London upon this subject of Chloroform. In those days I was in the habit of administering chloroform with a sponge to one nostril, under a towel; and if I recollect rightly, I laid great stress in my paper upon the necessity for freely diluting the vapour with air. Since then I have had cause to alter my opinion; for I find that if small doses are administered with very little air the results are much more satisfactory, particularly if Carlisle's chloroform-bag is used. Of this apparatus I wish to speak in terms of great praise, and would strongly recommend it to chloroformists. There is just one improvement which might be made—namely, the perforated zinc plate, which covers the sponge-box, I think should be provided with hinges, so that the sponge can be removed and cleansed. The objects gained by using the bag with small doses are—(1) Anæsthesia is produced very rapidly indeed; (2) the animal recovers more quickly; (3) the after effects are very unimportant (under the old system the patient was generally more or less upset visibly for a day or two); (4) the new method is more economical. I record below the temperature, pulse, and respiration of sixty cases in which chloroform was administered, and the animals underwent very severe operations. The record is for the first five days after the chloroform was administered. I may add that I have taken the temperature of ninety horses at present under my charge as surgical cases, and I find the average to be 99⅘° F. It should also be stated that my record comprises horses of all sorts, from the heavy wheel-horse to the thoroughbred racer.

I am aware that some authorities rather discourage the administration of chloroform, on the ground that it frightens the horse more than the operation does. This is not my opinion; but I am willing to admit that a little practice may be required to get the patient quickly under the influence of the anæsthetic, and to know the exact moment when enough has been given for the operation about to be performed.

SIXTY OPERATIONS UNDER CHLOROFORM.

Progressive Number.	Dose of Chloroform.	Following Day.			2nd Day.			3rd Day.			4th Day.			5th Day.			Remarks.
		Temp.	Plse.	Res	Temp.	Plse.	Res.	Temp.	Plse.	Res.	Temp.	Plse.	Res.	Temp.	Plse.	Res.	
1	3 oz.	101·4	40	16	101·4	40	16	100·4	normal		100·2	normal		100·1	normal		Chloroform given on a sponge, applied to one nostril, with a towel to cover it.
2	3 ,,	102·0	44	16	101·1	42	14	100·4	normal		normal			normal			
3	3 ,,	100·1	38	15	101·3	35	15	100·4	35	15	100·2	normal		normal			
4	3 ,,	100·3	normal		100·2	normal		not recorded			100·4	normal		100·2	normal		
5	3 ,,	100·2	40	15	normal			normal			normal			normal			
6	3 ,,	101·3	normal		101·1	normal		100·3	42	16	100·2	36	15	normal			
7	3 ,,	normal			100·2	normal		100·2	normal		100·2	normal		100·1	normal		
8	1½+½	101·4	42	17	102·3	44	14	101·4	42	14	100·3	42	14	100·3	normal		Carlisle's bag used in this and in all other cases.
9	1½+½	101·2	38	15	100·1	normal		normal			normal			normal			
10	1½+½	normal			100·1	normal		100·3	normal		100·2	normal		normal			
11	1½+½	102·0	60	30	102·2	40	20	101·3	40	24	101·2	38	18	100·1	38	16	A very severe operation.
12	1½+½	101·4	38	16	101·4	38	16	101·2	38	16	101·2	38	16	100·2	38	16	
13	1½	100·4	44	24	100·3	42	20	100·1	40	18	101·1	40	16	100·1	38	16	
14	1½	101·1	42	20	100·4	41	18	100·2	40	16	100·2	40	16	100·2	40	16	
15	1½	101·3	44	21	101·1	42	18	101·0	40	16	100·2	40	16	100·1	40	16	
16	1½	101·3	42	18	101·1	40	16	100·2	38	16	101·0	36	16	100·3	36	16	
17	1½	101·2	42	18	101·2	40	18	101·2	40	16	100·4	40	16	100·2	38	16	
18	1½	101·2	48	18	101·0	44	18	100·3	44	16	100·1	42	16	normal			
19	1½	101·2	42	17	100·3	40	16	100·2	40	16	100·1	40	16	100·1	40	16	
20	1½	101·1	41	16	101·0	40	18	101·0	40	16	102·0	40	16	100·1	38	14	
21	1½	100·3	42	16	100·1	40	16	100·0	40	16	normal			normal			
22	1½	101·3	44	18	101·1	42	18	100·4	40	16	100·2	38	16	100·1	38	16	
23	1½	101·3	44	18	101·1	40	18	101·0	40	16	100·4	40	16	100·2	38	14	
24	1½	101·2	44	18	101·0	42	16	100·4	40	18	100·1	36	14	normal			
25	1½	101·4	42	18	101·1	40	18	101·1	40	18	101·0	40	16	normal			
26	1½	101·2	42	18	101·1	40	16	100·4	40	16	normal			normal			
27	1½	101·1	40	18	101·1	40	16	101·0	40	16	100·2	38	16	normal			6th day normal all round.

28	1½	100·3	42	18	100·3	42	16	100·1	40	16	normal			normal				
29	1½	101·2	48	18	101·0	44	16	101·0	40	16	normal			normal				
30	1½	101·2	48	22	101·0	40	18	101·0	40	16	100·2	40	16	normal				
31	1½	100·3	48	16	100·1	40	16	normal			normal			normal				
32	1½	101·3	48	20	104.2	60	26	103·0	58	22	102·2	58	20	101·2	48	16		
33	1½	101·2	44	16	100.3	42	16	100·3	42	14	normal			normal				
34	1½	101.0	48	18	101·0	45	16	100·2	46	16	100·2	40	16	normal				
35	1½	101·1	48	18	101·1	44	18	100·2	44	16	100·1	42	16	normal				
36	1½	100·2	48	18	101·1	46	16	100·3	44	16	100·1	42	16	100·0	40	14		
37	1½	101·3	46	18	101·1	46	16	101·1	42	16	100·2	40	16	normal				
38	1½	101·3	48	18	100·4	40	16	100·3	40	16	100·2	40	16	normal				
39	1½	101·3	44	18	100·4	46	16	100·1	40	16	normal			normal				
40	1½	101·4	50	19	101·1	46	16	101·1	44	18	100·4	42	16	normal				
41	1½	101·3	49	18	100·4	46	16	100·1	40	16	normal			normal				
42	1½	102·2	48	18	101·2	42	16	100·3	40	16	normal			normal				
43	1½	101·2	48	18	101·0	44	14	101·0	44	14	100·4	44	14	100·1	42	14		
44	1½	100·2	48	16	100·2	46	16	100·1	44	14	normal			normal				
45	1½	101·2	40	14	100·4	40	14	normal			normal			normal				
46	1½	101·1	48	16	101·0	46	16	100·4	44	14	100·1	40	14	normal				
47	1½	101·3	46	18	100·4	46	16	100·2	42	16	100·0	40	14	normal				
48	1½	101·2	48	16	100·4	46	16	normal			normal			normal				
49	1½	100·4	46	16	100·4	46	16	100·2	44	14	100·0	40	14	normal				
50	1½	101·4	48	18	101·2	46	16	101·0	46	16	normal			normal				
51	1½	100·1	46	16	100·1	46	16	normal			normal			normal				
52	1½	101·4	50	18	101·2	46	16	101·0	44	14	100·1	40	14	normal				
53	1½	101·2	48	18	101·0	46	16	101·0	42	14	100·2	40	14	normal				
54	1½	102·2	48	16	102·0	44	16	101·2	40	14	101·1	40	14	normal				
55	1½	102·1	48	16	101·4	46	16	101·2	42	16	101·0	42	16	normal				
56	1½	102·0	48	16	101·2	44	16	101·0	44	16	100·3	42	14	normal				
57	1½	101·4	50	18	101·2	46	16	101·0	44	14	100·1	40	14	normal				
58	1½	101·2	48	18	101·0	46	16	101·0	42	14	100·2	40	14	normal				
59	1½	102·2	48	16	102·0	44	16	101·2	40	14	101·1	40	14	100·1	36	10		
60	1½	101·3	50	16	100·4	44	14	normal			normal			normal				

A very nervous thoroughbred. Gave Tinct. Opii. 4 oz., before casting, to keep her quiet.

"Normal" in this record signifies that the temperature was not above 99½° Fahr., nor the pulse over 38 beats per minute. The high temperature in case 32 on the second day was related to surgical symptoms.

ACTINOMYKOSIS BOVIS IN THE STATE OF CALIFORNIA.

BY THOMAS BOWHILL, M.R.C.V.S.

Considering the importance of this disease to veterinary surgeons, I will trespass upon the valuable space of the Veterinary Journal to give a description of the manner in which I have found Actinomykosis Bovis occur in the State of California. The remarkable prevalence of the malady induced me to keep a record of the number of cases met with during the last twelve months. In this time I have seen over 200 well-defined cases; some I saw at the slaughter-houses of San Francisco, whilst inspecting veterinary surgeon to that city. I also saw it in the fields in men's herds, whilst inspector of the United States Bureau of Animal Industry. As to the remarkable number of cases met with,—in one herd of 200 cattle there were fifteen well-defined cases, with others of dubious origin. When the owners were informed of the infectious nature of this malady, they laughed, and said it was only a wild oat which had gained admittance through the mouth, and set up a suppuration. To convince those sceptics, I asked them to kill some of the affected cows and steers, and on section of the bones of the jaw, I was able to show them the honeycombed appearance, the spaces filled with the yellow nodules of the fungus. In other cases, when the lesion lay in the parotid and submaxillary region, I removed some of the tumours, and section of these revealed the white matrix studded with the little nodules of a fatty appearance, as described by Bollinger; whilst other parts of the same tumour were filled with caseous matter, some parts of which had undergone calcareous degeneration. Finding no wild oats convinced those gentlemen that the disease was other than a mere swelling due to the above irritant.

In this State, the disease manifests itself in the following manner:—(1st) Affecting the lower jaw and commonly known as "Big Jaw" or Osteo-sarcoma; (2nd) Affecting the superior maxilla, and causing a bulging a little below the eye; (3rd) Affecting the parotid gland; (4th) Affecting the submaxillary gland, filling the submaxillary space; (5th) Occurring in the retro-pharyngeal lymphatic glands, and commonly known as "Clyers"; (6th) As an Epulis growing out from the gums. In one case, I found the fungus in the lungs, as tumours in the connective tissue, and as small hard lumps in the integument of the facial region.

I have never yet seen a case where the tongue was primarily affected or implicated. I have operated in numerous cases, as has also Mr. Fitzgerald, M.R.C.V.S., of this city. In the case on which we operated together, and which I am about to describe, the

animal was a Hereford cow, which was affected by the form of actinomykosis known as "Clyers." You could hear the animal breathing with a loud roaring noise at the distance of twenty yards, and with a loud laryngeal cough, accompanied by frothing at the mouth. On manipulating the tumours, we found they were of an immense size; there being two, if not three. Owing to the great distortion of the surrounding structures, it was difficult to form an opinion.

Having informed the owner that we thought it was a case of Actinomykosis, and, provided there were no systemic lesions, we might perhaps operate with success, he consented. We threw the animal, and made an incision about five inches long through the skin at the inferior portion of the parotid gland, and boring through the connective tissue with our fingers, we exposed the Clyer encased in a tough capsule. We next put a seton needle through the Clyer, carrying a strong ligature, and tore it away from the surrounding structures with the fingers, one pulling on the ligature, the other tearing it away. It is a very difficult matter, and one at which you will perspire freely, as the attachments are very strong. The same operation was performed at the other side, a new incision being made, as it was found impossible to reach the second um our through the first opening. The first tumour weighed 3 pounds; the second, 2 pounds—5 pounds in all. In Dr. Fleming's valuable treatise on this disease, he mentions the fact that a German operator removed these tumours by cutting through the mesian line of the pharynx. I have never found the tumours small enough to be removed in this manner. The wounds were dressed with a solution of carbolic acid, and they healed rapidly; but in about five weeks' time we were astonished to find another one growing, and with such great rapidity, that we were inclined to think that it was developed from the third tumour, which we could not find, although at first we suspected its presence. The tumour now grown was in the near side. We again operated, and removed another large tumour about four pounds in weight. After this removal the animal was very weak, but in a few days its breathing was better, and it improved rapidly. We now thought that we had seen the last of them, but we were disappointed; for in two months another one made its appearance on the off side. The cow being within six weeks of calving, we could not operate at once. She calved a fine bull calf. About fourteen days afterwards, at the owner's urgent request, we again removed another tumour in a similar manner, this one being the largest of any; but as it was punctured before removal, in order to get it out, it is impossible to give the correct weight. It contained quite a pint of thick pus and *detritus*; the walls of the capsule were almost

two inches thick, and thrombosed vessels passed through it, crossing the centre. The wound in this instance was dressed with a strong solution of Cupri Sulph. for a week, and then with a solution of Little's Soluble Phenyle. The animal was sold about three months afterwards, with her calf, very little swelling remaining, and I have now lost trace of the case.

Microscopical examination of sections of these tumours taken from this animal, stained with picro carmine and alum carmine, revealed in every instance the presence of the Actinomyces fungus.

The next cases which came under my notice were some old cows at the San Francisco slaughter-houses, which were condemned by a local veterinary surgeon, who graduated as an ostler, and gave as his diagnosis "Caries of the bones of the head." On the day following the publication of the above diagnosis in the morning papers, there happened to be the first General Meeting of the State Veterinary Medical Association. The matter was brought before the Society, and we asked permission to examine the cattle on our own account without any remuneration. Permission being granted, we proceeded to the place where the cattle were impounded, and I think a more miserable, dilapidated lot of animals could not be found. Some were affected in the bones of the head, some in the subcutaneous tissue around the neck and face; others, again, in other parts of the body; and from the amount of marasmus, accompanied by the peculiar cough of some, I have no doubt that they were cases of Systemic Actinomykosis, although the cough might be due to Tuberculosis. We obtained sections of the tumours of some of those animals; they all contained the characteristic Actinomyces fungus. I may add that those cattle were intended to be slaughtered for consumption in this city.

The next case that I consider worthy of special attention occurred in a fine Jersey cow. The tumour in this instance was situated at the inferior extremity of the parotid gland. I excised this tumour,and dressed the wound with a solution of Cupri Sulph.; it healed rapidly, but it again appeared at the superior end of my last incision, in about thirty days. I again removed it, treating it as before, thereby hoping to have seen the last of it. I was disappointed, however, for it again appeared—just two inches from the base of the right ear—about one inch higher each time. This time I removed a considerable part of the surrounding structures, going well into the substance of the parotid gland. I was now annoyed at its recurrent nature, and on the animal being allowed to get up, I threw a handful of Cupri Sulph. into the cavity, and continued to dress it with a strong solution until the wound was healed. Microscopical examination of all these tumours revealed the characteristics of the Actinomyces fungus.

I heard of no bad results from this case till the end of four months, when I was again summoned, and to my utter astonishment found the tumour larger than ever, involving the whole parotid gland, and as hard as a rock. The inferior extremity of the gland pointed downwards and outwards into the submaxillary region. I threw the animal, and rolled her over on her back, extending the head straight out, and made a longitudinal incision through the skin and subcutaneous tissue, when the point of the tumour suddenly bulged out. I passed the string through, as in the other cases, and called a farm hand to my assistance to pull on it. I tore away with my fingers at the surrounding tissues, and lacerated Steno's duct; working gradually up, I removed the tumour as far as the base of the ear, and, after considerable pulling and tearing with the fingers, removed the entire parotid gland. There was no hæmorrhage to speak of, owing to the schirrous condition of the entire structure, the vessels being entirely obliterated. I continued the sulphate of copper treatment as before, and the animal on last inspection presented no enlargement, except a slight thickening of the skin at the point of incision. Microscopical sections of this tumour revealed in the acini of the gland the presence of the characteristic Actinomyces fungus.

The next case I operated on was simply to enable a valuable cow to live long enough to have a calf, as she was affected with an epulis. I cut a hole through the cheek of the animal and introduced the ecraseur, not being able to do so through the mouth, owing to the instrument being too short. The neck of the epulis was about 1½ inches thick, and it weighed ½lb. The bone of the jaw was also affected at the point of attachment of the epulis. The animal was ordered to be destroyed after calving.

Mr. Fitzgerald, M.R.C.V.S., informs me that he has again successfully removed some tumours from the retro-pharyngeal space of a cow, and has obtained good results, although they were of an actinomykotic origin, and there has been as yet no return.

I have excised these tumours in numerous other instances, mention of which would only be repetition, as in every instance I pursued the same course; but in all cases on which I have operated, they have only been those of clyers and loose tumours in connective tissues, as I have found it entirely useless to operate when the bones are affected. I have only in such instances operated when the owner wished to save a calf, and promised to isolate the animal; because the State Board of Health orders all tubercular animals, and those affected with Actinomykosis, to be condemned as unfit for consumption, and also for dairy purposes, and empowers the City Veterinary Surgeon to seize and destroyed them.

Whilst acting in this capacity, I in one month seized ten head

of cattle (in three dairies) affected with Actinomykosis, besides others at the slaughter-houses.

I had occasion, whilst inspecting for the United States Government, to visit some ranches in the southern part of the State, during the last outbreak of Texas Fever and Anthrax, and I found a number of cases of Actinomykosis on one ranch. In some of these the lower jaw was distorted to one side at least three inches, and the right ramus of the inferior maxillary bone of one of these animals weighed ten pounds.

Pathology.

Concerning the pathology of this disease, I can only say that that given by Dr. Fleming in his treatise on Actinomykosis, exactly corresponds with the structural and microscopic examinations of the tumours as made by myself. They consisted of granulation tissue, studded here and there with the fungus and numerous epitheloid cells.

I have much pleasure in sending a photograph of one of the microscopical sections; it was taken by Dr. Hopkins, United States Army, Blackpoint, San Francisco, to whom I am indebted for a correct micro-photograph of a section of one of the tumours removed by me from the Jersey cow, which case I have mentioned above.

Mode of Access.

As to the mode of access, Dr. Fleming states that it is extremely probable that it enters in the form of spores through a wound, abrasion, fissure, or even by the delicate mucous follicles of the membranes lining the lips, mouth, pharynx, and nostrils. I agree with Dr. Fleming in stating that this is the mode of access; for it is well known that horned cattle hook each other invariably at the angle of the lower jaw, and thus a solution of continuity taking place, the spores can gain access. Again, the cattle in this country are fed on straw and other dry and hard fodder, numerous herds being turned on to the stubble fields, and as Dr. Fleming mentions, straw may be mouldy and infested with various vegetable parasites; the said straw acting as a vehicle for the transmission of the fungus.

In conclusion, I may state that those cases enumerated are but a few of the many I have seen, and one phenomenon which I cannot understand is, that I have yet to find or hear of a single case in which the tongue was implicated.

TUMOURS IN THE VENTRICLES OF THE HEART, CAUSING UNUSUAL SYMPTOMS.

BY A. M. CRIGHTON, M.R.C.V.S., LISBURN, IRELAND.

THIS was a large brown horse, about thirteen years old, and previous to seeing him I was informed that he had been rather dull for some time, and had had an attack of Colic, which, however, only lasted a short time. When at work afterwards, he seemed dull and unwilling to move as freely as he used to do; he, however, ate his food as well as usual. He was a very fat horse, and had always been well cared for, although he was pretty hard worked at intervals. He had not done much work for three or four days before he took his last illness, as his owner thought the rest might do him good. The symptoms were as follows: On December 4th, on seeing him early in the morning, I found him presenting evidence of abdominal pain, such as lying down and getting up again. Temperature 101°, pulse 68, irregular, and strong and full; conjunctival membrane slightly icteritious; quick and laboured breathing; lies down for a little, quietly, then arises and walks up the stall to the manger, throws up and down his head for six or eight times in quick succession, then walks back to the end of his rope and repeats the same act, and again walks up the stall to do the same thing, all the time perspiring freely. I administered an anodyne draught, and left one to be given in my absence. Farther on in the day, on seeing him, I noticed that he was perspiring very freely and seemed in a far more excitable state, prancing more up and down the stall, throwing up and down his head as before, the breathing more accelerated and laboured, and the nostrils dilated; the pulse was more intermittent; still showing signs of pain, looking round at his sides, and passing a small quantity of urine at intervals. On trying to drench him with his head elevated, he got into a most excitable state for some time afterwards, so that we had to abandon drenching him altogether, as he could not bear his head to be elevated at last. The higher we raised it the more he became excited, and seemed to be nearly suffocated. I could give him the medicine far more easily in bolus, as we had not to elevate his head; and this would show that the spine and brain were not affected. I gave him some more anodyne medicine and a hypodermic injection of atropia and morphia, and applied a blister to his sides. On again seeing him on the same day in the evening, the symptoms were more intensified than before, and he was in such an excitable state that it was dangerous to go near him, the pains coming on now at intervals, and I could get little time to examine him till they decreased. I, a short time afterwards, got an oppor-

tunity to take the pulse and listen to the heart-beats, as I was afraid it was implicated in some way, but I could only hear very indistinctly, as he was so fat, and also so restless; but I could perceive that the sounds were of a "muffled" character, more resembling a kind of dull thump than the natural beat; the pulse was still intermittent, and 80 or 82 per minute. The impulse of the heart could be distinctly felt on putting the hand on the floor of the chest. I gave him some more atropia and morphia hypodermically, and ordered some bran-water, which he took. Early on the morning of the 5th December I was again sent for by the owner, as the horse was getting quite wild, and like a horse with head-staggers. On seeing him again he did appear wild, as he was never at rest, but prancing continually up and down the stall, the sweat running from his body, and throwing up and down his head as usual. Pulse more accelerated than before, about 90 per minute, still intermittent and becoming weak. Temperature 105°; breathing short and very quick, just gasping for breath, with a great tendency to suffocate. I told the owner that I did not expect him to live. He died on that day, and the result of the *post-mortem* examination was as follows: Bowels rather full, but little or no inflammation present; liver considerably enlarged; kidneys slightly softened, and small abscess in the right; bladder normal and nearly empty. On opening the chest, I found slight pleural adhesions; Dropsy of pericardial sac; heart fatty and very much hypertrophied, and on opening it I found two tumours, one in each ventricle, the largest in the left a complete cast of the cavity, and passing into the aorta for a short distance. The tumours were partly of a yellow, tough substance, and partly dark, soft blood-clots. I consider that the tumours were the cause of the peculiar symptoms in this case. All the other organs were healthy.

Remarks.—When we had his head elevated to drench him he seemed to get excited and nearly choked, and when we let his head down he would fling it up and down for a number of times, and then seem relieved of the pain. Might that action on his part have anything to do with relieving the obstruction offered by the tumours to the blood-flow through the heart?

PATHOLOGY OF ROARING.

BY THOMAS GREAVES, F.R.C.V.S.

EVER since Mr. Hopkins introduced the subject last March, before the Lancashire Association, I have made a special study of the matter. I not only perused many writers, but I have also gone often to the knackers' yards and made careful examinations of the

larynx and the recurrent nerves of a large number of horses. Some of these horses were bad roarers; some of them were not roarers; in every case tested before death. Some of them were old, some young; some of them were heavy draught horses, others light-bred horses; in every case the examinations were made immediately after they had been knocked down.

In these examinations I have observed certain conditions which, it would seem, have escaped the observation of other anatomists; at all events, I have failed to find in any writer or speaker any allusion to it in the slightest degree whatever. The condition of which I speak is this: In every case in which the usual defective condition of the muscles of the left side of the larynx exists the recurrent nerve on that side either has no connection with the larynx whatever, or else the nerve is in such an attenuated condition as to be unable to afford any nervous influence or power. I have found in some of the cases the fibres of the recurrent nerve on that side separate into three or more; these disperse in the cellular membrane; they positively vanish, and I am satisfied there is not a vestige of nervous fibre approaches nearer than six or eight inches to the larynx on that side; and further, I am fully satisfied that these conditions have always been so, that the nerve on this side never has been in connection with the larynx. In other cases, where the muscles were, as usual, wasted and blanched, I found the recurrent nerve on that side was like unto a thin thread, instead of being like a crow-quill; it seemed to have no nature in it; it would break on the slightest tension, as if it were rotten, instead of being as strong as whip-cord, the same as was the case in the recurrent nerve on both sides in horses that were not roarers, and where the muscles of the larynx were plump and in full vigour.

I have pondered over this matter a good deal, and have come to the following conclusions: (1) that this defective condition of the recurrent nerve occurs at the time of copulation, and has been in this state from the earliest period of utero-gestation; (2) that the wasted, blanched condition of the muscles of the larynx had not always been in this state, but *that at birth they were perfect.* It must be remembered that up to the time of birth these muscles were never put into action, that they obeyed the laws of growth simply, requiring no nerve force to put them into action, and such condition might be no detriment until after birth.

The question arises, when do these muscles change into this blanched, wasted, helpless condition? What are the causes acting at the time? Is it weeks, months, or years after birth? On this point all writers are silent; our knowledge is at fault; but this we do know, that a horse may be to all appearance perfectly sound

in his wind at one period of his life, and at another period of life he has become a hopeless roarer, although he has not had one day's sickness or the slightest sore throat in the meantime. Does not this look like an inevitable condition, a natural process occurrence? And my conviction is that no human aid or skill can alter it; that is, can make the nerve elongate, or become plump and well-conditioned, nor restore the muscles to their pristine vigour. There is a special condition or species of Roaring called "Belland," which is, I have no doubt, a state similar to the above, but in which it is quite possible both recurrent nerves are affected, and the muscles of both sides of the larynx are alike affected; some of these cases may enjoy perfect health, but on the slightest exertion, ay, in some cases if you only go and stand up by their side, they begin to make a noise in their breathing; and if you continue to stand by them the noise becomes greater and greater, until it sounds like the strokes of a saw going through a deal board, and the spasm or obstruction becomes so great that he will suffocate and rush forward against the wall and die unless you at once open the trachea, when relief is instantaneous, proving incontestably that the difficulty exists in the larynx. I can understand this new operation, which some call an experiment, and others call mutilation; viz., the removal of the vocal chord and crico-arytenoid cartilage, being an artificial remedy consequent on giving free passage to respiration, the success of which is a consummation devoutly to be wished.

There are those who advance the opinion that the seat of Roaring is not in the larynx at all. I think the plain common-sense evidence is dead against them. In my opinion, it is in nearly every case simply and purely attributable to a total loss of power in the muscular fibres of certain muscles in one or both sides of the larynx, and this, again, is consequent on an absence of nervous influence. The condition of the vocal chord and the lining mucous membrane is always found in its normal healthy condition. I can conceive as a result of the removal of the vocal ligament and cricoid cartilage, that after a certain period the larynx must fall in, or collapse more or less, and therefore the end of such a case will be worse than the first.

TUBERCULOSIS.

BY TEDBAR HOPKIN, F.R.C.V.S., MANCHESTER.

THE transmission of Tuberculosis from one class of animal to another is much easier and more common than is generally supposed.

A chain of facts I learned from an old college friend, and which had been noted in his practice, are worthy of record. He was called in to see a cow belonging to a nobleman, and found it to be in an advanced stage of Tuberculosis. It was killed; and at his suggestion, a heifer, the daughter of the cow, and whose appearance was not satisfactory, was also slaughtered some short time afterwards. The *post-mortem* examination showed tubercles pervading the whole of the viscera. This was followed by a serious outbreak of Tuberculosis in the fowls on the same homestead and in the rabbits on the estate, large numbers dying from it.

In an adjoining village a rabbit-warren was made to supply rabbits for coursing, and stocked with rabbits from the above-mentioned estate. The disease broke out to such an extent in this new warren as to compel the owner to seek the opinion of my friend, who, knowing the previous history of the outbreak, was enabled to trace it to its source. He also gave me particulars of a case of Tuberculosis in the horse. Personally, I have never seen it in this animal, but I believe the late Professor Robertson was of opinion that it did occasionally occur. It is quite time more active steps were taken to prevent the milk from Tuberculosed cows being consumed by human beings; and it is one of the things, if properly done, that would materially help to lessen our death-rate in infants.

RUPTURE OF THE RIGHT INTERNAL ILIAC ARTERY, THE RESULT OF A FALL.

BY VETERINARY-SURGEON J. A. MEREDITH, A.V.D., CHIEF STATION VETERINARY HOSPITAL, MHOW, CENTRAL INDIA.

I HEREWITH send the following rough notes, taken from the Record of Treatment Book, of a case that recently occurred in the regiment under my charge, for publication in the VETERINARY JOURNAL, provided it is considered of sufficient interest. I do not find another instance recorded in which a rupture of this blood-vessel has been the result of a fall.

Case 109, E 5; subject, bay Persian gelding, aged six years, 5th R.I.L., 20th Nov., 1888. Rupture (blood-vessel). My attention was called to this horse in the following manner: About 10.15 a.m. on the 20th November, 1888, I was making my morning visit to the chief veterinary hospital, when I was informed by the muccadam of E troop, 5th R.I. Lancers, that troop-horse E 5 had fallen down and broken his leg. I immediately proceeded to E troop stable, and found the horse down and unable to rise. I inquired into the case, and learnt from the syce that the following

had taken place: About half-an-hour previous to my visit the horse had broken loose from his head-collar (web), had turned right about in his standing, and was proceeding outwards through the archway which is at the back of each standing, with the heel-rope on. When outside he was too hastily hunted in by two sentry syces, during which he came into violent contact with the archway wall and fell heavily on his off-side. (I would give it as an opinion that he fell through being entangled in the heel-rope, as he fell directly on his back and his legs up in the air.) He staggered for a few seconds, and was reported to have risen of his own accord and walked two yards or so forward into his standing, when he was secured with his head-collar. No further report or notice was taken of the patient until my attention was called to him about half-an-hour afterwards. I examined him, and seeing he was unable to rise, I endeavoured, with help, to get him up, but to no purpose, as he could not use either of his extremities, even a little; neither did he take any notice when pricked with a pin in his hind extremities. He presented the following symptoms: Pulse imperceptible, mucous membrane quite white, tongue protruding out of the mouth, with lower lip pendulous and the colour of whitish paper on its mucous surface; the tongue and mouth exhibited a similar blanched appearance. A most characteristic cold touch was felt over the head, neck, and extremities; breathing long, deep, and laborious. The abdomen was greatly distended, and appeared to enlarge rapidly; other symptoms peculiar to spinal paralysis were present. I administered some stimulants and passed the catheter, but only a little urine was removed. I had him carefully packed and allowed to remain quiet for a time, but in a few minutes he endeavoured to get up, when he fell over on his near side and died a few minutes afterwards, or about one hour from first falling. I could not bring my mind to believe that a fracture of the vertebræ had taken place, because the syce had informed me the horse had stood up half-an-hour after the accident happened, and then suddenly fell. Besides knowing the syce well, I found he was to be relied upon. Also the symptoms did not show anything but rupture of a blood-vessel.

Post-mortem Appearances.—Abdomen much inflated, and abdominal cavity distended with blood and accumulation of gas in the intestines; the blood in the cavity was found to be clotted in various situations, more particularly about the pelvic circle and up to the anus, which was everted from the pressure upon the inside. I discovered the cause of death to arise from an extensive rupture of the right internal iliac artery at the point where it gives off the internal pudic artery. The rupture appeared to extend to the

quadrification of the abdominal aorta, but the most characteristic appearance existed towards the internal and posterior surface of the femur, and about one and a half inches from the head of the bone, where I observed that the muscular tissue was literally smashed up, jelly-like in structure, with deep discolouration for some distance around. The rupture extended throughout the internal pudic artery. The injury above mentioned was caused by the fall and coming into contact with the wall of the archway. The principal organs of the body presented a blanched appearance.

MICRO-ORGANISMS AND DISEASE, ESPECIALLY WITH REFERENCE TO THE QUESTION, WHAT IS THE PATHOLOGY OF "SURRA" IN ANIMALS?

BY R. W. BURKE, A.V.D., JUBBULPORE, INDIA.

THE subject of micro-organisms and disease, at all times interesting, is specially important at present, on account of the question, What are the disease-producing organisms, and what harmless ones? A further aspect of this question has now presented itself, namely, whether harmless or not, the same organism may be present in quite different diseases. Thus, I may mention the "Surra" parasites are far from being confined to that disease alone. Dr. Carter has quite recently shown that in Remittent Fever of man the blood contains parasites which in their morphology and general features are identical with the parasites of Surra in the lower animals ("On the Lately Demonstrated Blood Contamination and Infective Disease of the Rat and Equines in India," 1888). And we have seen organisms in the blood in Intermittent Fever of the horse ("Equine Diseases of India," July, 1887, p. 4), resembling those described by Laveran in the blood of man during the Ague paroxysms, which receives confirmatory evidence from the pen of Dr. Carter, who found that in ninety-three instances of malarious disease in man (Intermittent Fever, Remittent Fever, and Splenic Cachexia) these organisms were present in nine. As to the influence of blood parasites in causing disease, it is satisfactory to note that in addition to the case of Intermittent and Remittent Fever above mentioned, there is the further fact of Dr. Kynsey's observation of the disease called "Beri-Beri," or Anchylostomiasis, in Ceylon, being also due to a hæmatozoon, which affords interesting confirmation of the views already advanced by veterinarians on the continent of Europe, in which similar parasites have been shown to be the cause of fatal Anæmia in horses.

Now we come to the most important question, viz., these parasites having been met with under so many different disease

states, do they ever exist in the bodies of animals without producing any disease? Medical practitioners in Ceylon have shown that the presence of the *Anchylostomum duodenale* in the case of human beings caused "Beri-Beri," or pernicious Anæmia, and sometimes no trouble; if, however, the Anæmia was also present the parasites were always present, although these parasites alone in large numbers are unable to produce Beri-Beri in the bodies of other men enjoying perfect health (*British Medical Journal*, 30th June, 1888). Lewis, Crookshank, and Carter have already demonstrated the presence of Surra organisms in the blood of healthy rats. Such a fact in itself is sufficient proof that infusorial organisms of more or less similar appearance exist under varying conditions—pathogenic and non-pathogenic—without implying any necessary connection between the conditions themselves. How, then, are we to distinguish the conditions? It is remarkable that, with all our attention and care shown in the past in the investigation of the characters of the monads seen in Surra, the clinical features of the disease were not similarly considered. We find accordingly a variety of designations now in use, and we still rely for the most part on the interposition of side questions; so that our facts are built up, so far as they go, on the suggestion of others, instead of being founded on facts encountered by us in actual practice.

Other organisms, besides the above, have been found to exist in this pathological condition, or so-called "Surra" in horses. Thus we had noted (VETERINARY JOURNAL, January, 1888) the presence of a bacillus, and which we believe to be more or less common, though not specially connected with the disease. And Dr. Cunningham (VETERINARY JOURNAL, October, 1888) has described similar organisms in the blood of horses suffering from this disease which was lately submitted to him for examination.

Those who have appreciated the true nature of Surra will not be surprised at the excessive mortality it causes in our animals. In the meantime, further investigations are needed, as it is fully admitted by Dr. Carter that the proof of the trichomonas being the cause of Surra is incomplete. No matter what the fate of the monads, the classification of the clinical characters peculiar to Surra is an object of the first importance, and the interest in the share taken by infusorial organisms in the production of this disease affords no exception to the rule.

Much of the Surra enzootics among horses which prevail so extensively in most parts of India, might be prevented if the *source* of the parasites causing this disease could be found, in place of the numerous hypotheses which have been put forward. Hitherto the source of the Surra parasite has always appeared to be one of the most obscure problems in etiology. Lately, when making an

examination of the liver of some field rats, I noticed the presence of little cysts, to which the *Trichocephalus dispar* was attached; and the question occurred to me that the disease called Surra in horses was probably in some way connected with the presence of rats infested with parasites; for it would appear that the embryos, being washed away into the alimentary canal along with the bile, are deposited with the fæces on gram, etc., supplied to the animals, and to which the rats have access. It was observed by Veterinary Surgeon Cooper that the persistency of the disease in ponies, in the Berars, was associated with the presence of rats in the stables; and he puts forward the question, Are the rats a cause of outbreaks of Surra among horses? To me it seems probable, considering the great tendency these animals have to harbour parasites of different species, and as I have just noted, the *Trichocephalus dispar*, a parasite shown to be concerned in the production of one form of Anæmia in Ceylon (Kynsey, "Report on Anæmia or Beri-Beri of Ceylon," 1887).

Doubtless the appearance of the worms in the liver of rats noted by us do not show a relation of cause and effect between the latter and the disease said to be produced by them; but they appear to show that animals infested with these parasites are not good companions to have in a stable containing horses; for it is certain that where rats are numerous, and are themselves infested, the food of horses, however abundant and wholesome, is no less affected by worms which have been deposited with the fæces contained in it. The amount of excreta in bran and grain sold in the bazaars in India is often surprisingly great; grains stored away in native houses have been found to be abundantly mixed with the excreta of rats. Therefore, for many reasons, in India our treatment in outbreaks of Surra should mainly be directed to the question of food supply for our patients, to determine whether it has or has not been exposed to contamination of any kind. Otherwise, in India the inexperienced practitioner may be surprised at finding that the horse beans (gram) or other food-stuffs often consist of a mixture, in varying proportion, of the evacuations of the common house-rat.

There is something to be said in favour of these views: first, the presence of the trichocephalus in the Beri-Beri of man seen in Ceylon; secondly, the presence of these worms in the liver of rats in India, noted by us; and lastly, the presence of the rats in association with cases of Surra witnessed by Veterinary Surgeon Cooper.

Editorial.

THE ARMY VETERINARY DEPARTMENT.

In another part of the Journal there appears a new Royal Warrant which was recently issued, amending the regulations relative to the pay and retirement of officers of the Army Veterinary Department, in so far as these regulations affected the officers engaged for a period of ten years. In 1878, a warrant then promulgated materially altered the position veterinary surgeons had previously occupied in the service; what was known as the "regimental system" was abolished; there were no longer to be Veterinary Surgeons gazetted to regiments, except in the Household Cavalry, but they were to constitute a department, and were placed on a special footing: wearing a particular uniform, and enjoying certain privileges which they did not before possess. These privileges were a slightly increased rate of pay, exemption from such contributions as mess and band subscriptions (which pressed heavily upon them), and from paying for their horses' forage, etc. The advantages of this new system have been fully realised, and to those who entered the army after its introduction the benefits have been very great; for while all were exempted from the heavy contingent expenses of the old system and occupied a more independent position, those recently joined received the very liberal pay of two hundred and fifty pounds a year, exclusive of forage, and lodging and servants' allowance, for ten years. This period was that for which they were engaged, and at the termination of it they were at liberty to leave on a gratuity of eight hundred and fifty pounds, or the Government could dispense with their services on the same terms. The serious drawback was that only four of these officers could be retained annually; and considering that in the first year of the New Warrant ten joined the Department, it was obvious that, if the regulation was to be carried out, six of these must be dismissed in 1888. The intention was, no doubt, to effect a saving to the country, as by the ten years' engagement the higher pay to which longer service would entitle them, as well as retired and widow and children's pension, would be got rid of. But the arrangement was not a wise or satisfactory one. After spending ten years in the army, the greater part of the time on foreign service, and at the best period of a young man's life, to be turned adrift to push one's way in a very different line, was not at all a pleasant look out, and the uncertainty of retention made such an event not at all improbable. And to the country, the dismissal of veterinary officers after they had become acquainted with army routine, and had gained valuable experience of a special kind, was a palpable loss.

For these, and some other less pressing reasons, it was deemed necessary to introduce a less rigid rule, and to allow more option in the matter of retention at the termination of the ten years' engagement. By the new warrant this has been effected; so that now all, some, or none of those who enter, may be kept on after the decennial period

has been completed, this being dependent upon certain conditions—such as the conduct of the officers while so engaged, their competency, and their desire to improve their professional knowledge. When a decision has been arrived at as to their fitness for retention, and they have passed the qualifying examination for promotion (which is not required if they have previously become Fellows of the Royal College of Veterinary Surgeons, and which entitles them to have F.R.C.V.S. placed after their names in the Army List), they are then placed on the permanent establishment, and are eligible for increase of pay, according to rank and length of service, as well as pension.

It was a matter for discussion whether this new system, or a reversion to the one which was in force previous to 1878, with its smaller rate of pay and no ten years' engagement, should be adopted; but consideration for the financial requirements of officers for some years after joining, and also the necessity for ensuring that none but good men should remain in the Department, prevailed in favour of that which is now introduced.

In consequence of the computed large increase in expense which the new warrant prospectively entails, it was necessary to make some modification in the rate of pay allowed after ten years, and this has been effected by a reduction of only sixpence a day for the subsequent ten years; after which the pay will be the same as is now given. This, however, though a very small decrease in the pay of the individual, will yet leave the system a more expensive one than the last warrant would have permitted.

We believe that, by this concession, the Government has removed the only real grievance, if such it could be called, which has of late years existed in the Army Veterinary Department, and its members now enjoy a position and emoluments such as no veterinary officers hold in any other army in the world. That they fully deserve this, no one who knows what their duties are in nearly every quarter of the globe can deny; and the high estimation in which they are held by the military authorities is ample evidence that they are worthy of confidence. In this it is matter for congratulation that they owe their status to no back-door influence or favouritism, but to solid merit and devotion to duty. The rapid rise from what might be considered contumely and comparative neglect, to the position of to-day, has been achieved by the determination of every officer to compel recognition of his Department by doing everything in his power to show that his aim was to faithfully serve his country and elevate his profession.

An excellent career is offered to those who are fortunate to obtain admission to the Veterinary Department of the Army, if only they are the right kind of men and are animated by the proper spirit. Their opportunities for study and observation are unrivalled, and it is entirely their own fault if they do not excel. Every year should see an advance in knowledge and usefulness, and their exalted position attracts more attention to the manner in which they utilise their opportunities and advantages; remembering what labour and sacrifices have been exacted in attaining this position, should make them doubly anxious to maintain, and, if possible, enhance it.

The value of veterinary science, and the need for veterinary knowledge in the army, is forcing itself upon the attention of the military authorities from day to day. By a quite recent decree, it is rendered compulsory that all officers of mounted corps attend a special course of instruction at the Aldershot Veterinary School before promotion; and to the new Volunteer artillery batteries of position veterinary surgeons are to be appointed, who will wear the same uniform as their colleagues in the regular army, with one or two slight differences. In the event of mobilisation, all could work under the same direction, and alike do their duty for home and for country.

LANOLINE AS A HOOF OINTMENT.*

THE property of lanoline to absorb water and to retain it, is the reason for its employment as an application to the horn and skin. Lanoline does not irritate the skin, but penetrates it very easily; so that it is an excellent vehicle for ointments, especially when it is a question of treating the deeper layers of the integument; for fats which are not, or only with difficulty, miscible with water do not penetrate so deeply. With lanoline a number of experiments have been made on living, as well as dead horses' hoofs. From these it appears that the horn of living animals becomes not only elastic and firm, but it is also no longer liable to splitting and breaking. The improvement in the horn increased during the time of the observations, and was specially noticeable on shoeing the horses, when taking off the shoes and on cutting the hoof. Dead horn treated with lanoline became soft and pliable. One of the properties of lanoline is also this: that it does not decompose, and does not form any fatty acids, as is the case with other vegetable and mineral fats, which thereby spoil the consistency of the horn, and increase its tendency to dry up.

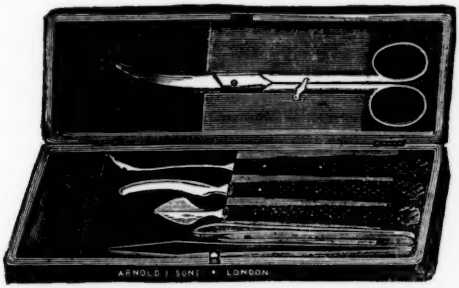
On using lanoline on horn, it is necessary that the hoof should previously be well cleaned by means of cold water; after having been dried, the lanoline in small quantities is rubbed in by means of a woollen rag into the coronet and wall, and where the shoe does not make this impossible, and also in the sole and in the cleft of the frog. The embrocation is continued until a dull gloss is visible on the surface of the horn. To embrocate the hoof with lanoline without rubbing it in thoroughly is not only useless, but calculated to do more harm than good; because it will collect dust and dirt, and form a coating with the lanoline which will obstruct the pores, whereby the exhalation from the hoof horn is impeded. The lanoline used as hoof ointment possesses this advantage over all other ointments and fats, that it leaves the pores of the hoof free and transpirable.

NEW INSTRUMENTS FOR BLOODLESS NEUROTOMY.

EVER ready to meet the demands of science and the profession, Messrs. Arnold and Sons, West Smithfield, London, have recently brought out another case of instruments for the performance of that extremely useful and simple operation, Neurotomy. These instruments are designed by one (Professor F. Smith, Army Veterinary School, Aldershot) who would appear to have had exceptional experience in the performance of this operation. It will be

* Extract from the *Hufschmied*. Romnald Tobolewsky: "Lanoline as a Hoof Ointment," (Przeglad Ueterynarski, Nr. 8, 1888, and Koch's Defterr. Monatsschrift für Thierheilkunde, Nr. 10, 1888).

remembered that some years ago, this gentleman advocated the system of bloodless Neurotomy by the use of Esmarch's bandage. This he has largely and successfully practised, and the instruments, consisting of knife, bistoury, needle, dissecting and artery forceps, and scissors, with an elastic bandage and



tourniquet, have in his hands yielded most excellent results. The instruments are in black handles, large and firm to hold; and the needle requires no threading. The mode of applying the elastic bandage and tourniquet was practically demonstrated at Newcastle recently. To those who seldom per-

form Neurotomy, we advise the use of the bandage, for they cannot help but find the nerve; to those who operate frequently, we say provide yourself with a simple contrivance by which every drop of blood in the limb is removed, and no ice or cold applications required before the operation.

Reviews.

LAMENESS OF HORSES AND DISEASES OF THE LOCOMOTORY APPARATUS. By A. LIAUTARD, M.D., V.M. (New York: W. R. Jenkins. 1888.)

The distinguished Director and Professor of the American Veterinary College, New York, has laid the veterinary profession in English-speaking countries under a heavy obligation, in offering for their acceptance

an excellent little manual of lameness and disease of the horse's limbs. It is the only work specially devoted to the subject in our language, and it treats of it in a thoroughly practical manner. Among the most important chapters are those dealing with the special diseases of the extremities, such as those of the shoulder, elbow, knee, hip, stifle, and hock joints, and the affections of the digital region ; though there is little to be found with regard to diseases of the feet, the author having already treated this subject in another monograph. Other chapters are occupied with the subjects of symptoms and diagnosis of lameness, and diseases of bones, joints, muscles, and tendons. The descriptions are good and clear, and altogether the work may be considered an important contribution to this department of veterinary surgery.

THE VETERINARY SURGEON'S DIARY AND NOTE BOOK FOR 1889. By E. E. BENNETT, F.R.C.V.S., Army Veterinary Department. (London : Baillière, Tindall and Cox.)

Veterinary surgeons can no longer complain that they are not as well provided with a professional diary and note-book as the medical profession, or, for the matter of that, their colleagues on the Continent. For many years German and Russian practitioners have enjoyed the advantages and conveniences of such a publication, and now these are placed within the reach of English veterinary surgeons by the endeavours of Mr. Bennett and the enterprise of the well-known veterinary publishers. So far as we can discover, Mr. Bennett has omitted nothing that could be of use to the practitioner in the way of ready reference, and in the compilation of this pocket diary and visiting book he has evidently spared no pains to render it complete. A wonderful amount of useful information is condensed into a small space ; there are sections on forage, medicines, dentition, weights and measures, a table of solubility, symptoms and treatment of the most important poisons, temperatures of animals in health, periods of incubation of disease and of utero-gestation, composition of milk of various animals, chief internal parasites of animals, Contagious Diseases (Animals) Act, etc., as well as a kalendar and a well-spaced diary, the whole contained in a handy pocket-book which occupies but little room in the breast-pocket,and which is sold for two shillings and sixpence, and three shillings and sixpence. We are certain the diary will have a great demand, as nothing more useful for every-day work could have been contrived ; and Mr. Bennett and the publishers well deserve the thanks of the profession for the boon they have conferred.

REPORT ON ERUPTIVE DISEASES OF THE TEATS AND UDDERS OF COWS, IN RELATION TO SCARLET FEVER IN MAN. By Professor BROWN, C.B. (London : Eyre and Spottiswoode.)

This report, prepared by Professor Brown, is in reality a continuation of the discussion as to the bovine origin of human Scarlatina at the London suburb of Hendon. It constitutes a reply to those who maintained that the epidemic of this disease, which occurred there in 1885-6, was due, primarily, to an eruptive disease on the udders of cows in a

certain dairy, by which the milk was rendered infective. The positive proofs, as given by Mr. Power and Dr. Klein, have been already published in this Journal; the negative evidence presented by Brown, Axe, Crookshank, and McFadyean, is published in this report.

Scarlatina, as it is observed in the human species, has never yet been observed in the bovine species, nor yet in any other kind of animal. Therefore this disease not being a cow malady, and not transmissible to that creature from man in any of the ordinary ways, it is not likely that mankind can be infected by the cow. The Hendon epidemic of Scarlatina is the only one associated with an eruptive disease on the udder of cattle, though such eruptions are far from uncommon. Therefore the evidence in favour of the human disease being due to the bovine one, is not sufficiently strong to incline careful and discriminating people to the belief that there is any relationship between them. Such is the conclusion, it would appear, arrived at by Professor Brown, who says: "The question of the relation between the Hendon cow disease of 1885-6, and the outbreaks of Scarlatina which were coincident with it, remains unanswered. The exact conditions which existed then have not recurred, and probably never will recur in their entirety." It cannot be said that the report adds anything to our knowledge of pathological process, nor yet to the eruptive diseases of the cow; but it is interesting as showing the close intimacy existing between human and animal medicine, and the urgent necessity for learning everything possible concerning their points of contact.

ROARING IN HORSES. By EDWARD COTTERELL, M.R.C.S. (London: H. K. Lewis. 1888.)

The latest addition to shilling dreadful literature demonstrates how easy it is to write a book—for a purpose. There is nothing new in the present venture except the inaccuracies, the mysterious "shortening up of the remains of the muscles attached to the arytenoid cartilages," and a solitary case in which a *horse-dealer* failed to notice that a horse roared a month after the operation, which Mr. Cotterell, M.R.C.S., says he performed. It is, however, only fair to the dealer to state that the author omits to mention whether the horse roared before the operation, and if so, to what degree. As a professional work it is quite valueless; it teems with errors which it would be tedious to detail. The "Radical Cure" simply consists of Fleming's method of opening the larynx and removal of the vocal cord, combined with the mystery already noticed. Without knowing when Fleming's operation was first performed (though it was before Mr. Cotterell attempted it, and certainly long before last July), the M.R.C.S. claims priority, of course. The author says that he "carefully excises" the vocal cord and process. If that be the case, he ought not to interfere with the muscles at all, beyond dissecting them off the process. So when he talks about the "remains of the muscles," he is either unacquainted with the anatomy of the horse's larynx, or he does not "carefuily excise." If the author had recorded one or two cases which had been examined by respectable and competent judges, and found to

be cases of roaring; if he had then operated and cured or relieved the animals, in the opinion of the said judges, well and good. We should be delighted, even if the results appeared in a penny dreadful. Unfortunately, there is absolutely nothing in the book worthy of the name of proof, and taking it on its merits, we have come reluctantly to the conclusion that it is a too rapidly concocted advertisement, by one who is very imperfectly grounded in equine anatomy and physiology, and hurried through the press in order to forestall in the market the scientific work of others; and perhaps also to extend the business of an enterprising soap manufacturer. It is a matter for regret that a professional man should descend to such an extreme course, but in the matter of Roaring especially, ordinary scruples do not seem to be entertained by M.R.C.S.'s, and they appear to deal with it in a way they would not dare to do with any subject relating to their own profession. Such a course is not creditable. F. R.

Proceedings of Veterinary Medical Societies, &c.

THE ROYAL COLLEGE OF VETERINARY SURGEONS.

MEETING OF COUNCIL HELD NOVEMBER 21ST, 1888.

PROFESSOR PRITCHARD, President, occupied the chair, and there were present Professors G. T. Brown, C.B.; W. Duguid, Dr. Fleming, C.B.; Sir Henry Simpson, Messrs. J. B. Barford, J. S. Carter, T. Greaves, W. J. Mulvey, J. F. Simpson, Wm. Wilson, F. W. Wragg, G. Thatcher (Solicitor), and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the previous meeting were received and confirmed.

Correspondence.

The SECRETARY reported that he had received letters from the following gentlemen, regretting their inability to attend: Genl. Sir F. FitzWygram, Professors McCall, Walley, and Williams, and Messrs. Briggs, Cox, Dray, Simcox, Taylor, Whittle, and Woods.

Dr. FLEMING then moved the following resolution: "When the words 'the profession' or 'members of the profession' are used by this Council, they shall apply to members of the Royal College of Veterinary Surgeons, and this interpretation shall apply to the resolution passed by this Council with regard to the inquiry instituted as to hereditary unsoundness."

Sir H. SIMPSON seconded the resolution.

A discussion then ensued, in which the following gentlemen took part: Mr. Wilson, Professor Brown, Mr. Greaves, Mr. J. F. Simpson, Mr. Wragg, and Mr. Thatcher.

Dr. FLEMING then, with the assent of his seconder, withdrew the first resolution, and moved that it be an instruction to the Committee to send the circular of inquiry on hereditary unsoundness to members of the Royal College of Veterinary Surgeons only.

Sir H. SIMPSON seconded.

Mr. BARFORD spoke in support of the amended resolution, and it was then put to the meeting and carried *nem. con.*

The proceedings closed with a vote of thanks to the Chairman, proposed by Mr. J. F. SIMPSON and seconded by Mr. BARFORD.

CENTRAL VETERINARY MEDICAL SOCIETY.

AN ordinary general meeting of the above Society was held at the First Avenue Hotel, Holborn, on Thursday, December 6th, Alfred Broad, Esq., the President, being in the chair, and there were present twenty-seven Fellows and two visitors.

The minutes of the previous meeting were taken as read. Letters were read from Professor Walley and Messrs. Edgar and Hurndall. On the motion of Mr. Wragg, seconded by Mr. Newbery, the Secretary was instructed to write a letter of condolence to the widow of Professor Tuson, who had been an honorary Fellow of the Society for many years.

Mr. W. S. Reid, M.R.C.V.S., and Mr. Fitzwilliam Wright, M.R.C.V.S., both of London, were unanimously elected Fellows of the Society, and Mr. H. Springett, of Sydenham, Mr. F. W. Kendall, of Hitchin, Mr. Lewis, of Barnet, and Mr. S. M. Wilson, A.V.D., were nominated for Fellowship.

Mr. FRANK WRAGG exhibited the bladder of a bitch containing a calculus.

The CHAIRMAN then called upon

Mr. J. ROALFE COX, who said, Mr. President and Gentlemen: This short paper which I am permitted to read to you, is but a faggot of facts loosely put together, but there is sufficient matter in it for reflecting purpose, and light enough to show the way to a friendly discussion. Sound or unsound, that is the question; and thinking experience of many years in association with our common calling might be utilised in the inquiry, we have asked ourselves the question; have employed ourselves in the examination of a fitting case, and, if not too tedious, encroaching too much on your time and patience, would invite you to go over this examination with us whilst trotting out our subject —The Veterinary Profession. Its age is barely a hundred years, and prior to its birth the doctoring of animals, and of horses in particular, was chiefly in the hands of the empiric and self-taught, whose practice, more or less barbarous, was little calculated to lighten the loss which unrelieved disease and injury were entailing on the nation. With us, the birth of the profession in the training of its practitioners was contemporary with the foundation of the Royal Veterinary College in London, or rather outside London, for we may picture to ourselves Old Pancras as "in verdure clad," and then a peaceful grazing ground. We might indeed, in thinking of the olden time, quote, not inaptly, "The Passionate Shepherd to his Love."

> "Come live with me, and be my love,
> And we will all the pleasures prove
> That hills and valleys, dale and field,
> Woods and steepy mountains yield."

But "*on a changé tout cela*," and, with the march of intellect, poetry has ceded place to bricks and mortar. Still stands the Veterinary College where St. Bel and Coleman first began their work, destined to bear good fruit, and in the history of the profession, from earlier time, such other men as Moorcroft, Field, Youatt and Blaine, Sewell and Moreton, Percivall, Dick, Varnell, and that lecturer unsurpassed, Charles Spooner, are amongst the honoured names which live in memory. Others there are, still living, who have served the cause and helped it upwards.

During this brief chronicle touching its age and pedigree, it will be noticed that our subject has already been trotting before us at steady pace up-hill, not halting; but it is said that, later on and nearing present time, the course had turned and shown our subject in its pace down-hill, failing and crippled. If it be found, as we examine on, our subject, really had been going well up rising ground, and now lamely down, for chance of remedy we might seek cause.

What of its food and natural support?
How of its training and its after test?
Has it been over-ridden and ill-used?
Its food—certes, in its earlier days,
The food was ample, for lack of science,
Hygiene ignored, and gross mismanagement
Had yielded much disease.
Cases were varied, and of every day,
And gave to each long labour and good gain.
Great progress was the notable record;
Disease was studied well, and men bestowed
All energy to that, and that alone:
Hence their success and favour in the cause.
For long the trial was on rising ground,
And still our subject, our profession, showed
No sign of falter; but sad times arrived,
And, hard to say, perhaps, when the course had turned;
But turn it did, and our profession stumbled.
Science no doubt induced successful men
To study causes, and how best prevent,
And with a will less worldly-wise than grand,
Set hard to work in sowing wide their facts,
And killed the goose, in stamping out disease
All which pursuit, most noble in itself,
Most patriotic, Christianlike and right,
Threw to the dogs the life-preserving food
Which our profession needed.
Present age now sees how poor the market.
Where they drove their pigs; many pigs were lost.
There was a picture once, which much amused,
And reproduced in *Punch*;
It represented how a herd of swine
Was helter-skelter bustled down a steep,
And all were drowned.
A countryman, an amateur of pork,
Gazed on this picture, and, wondering, asked
A friendly neighbour—parson, as it chanced,
"Who paid for they drowned pigs?"
We too may ask, Who paid for our drowned pigs?
A grateful nation might have lent a hand,
The State have made some grant; but not as yet
Has any help, or scarcely recognition, come;
And now for want of food our case becomes
Weaker and weaker, as hard pressed down hill.
So much for food: and how about support?
The public felt and much deplored its loss,
And when good help appeared, with open hand
Paid freely; but the times have sadly changed.
The farmer once could well afford to pay,
Now he has fewer cases and less means;
And so with most, once liberal as rich,
The times have changed, and so has our support.
Say, is there food, is there support enough?
Time was when our profession carried well
All weight imposed, and amply was repaid.
But not so now; we ask it now to bear
Three times the weight, and with a third the food
Why, then, the wonder that it goes down hill,
Crippled and weakened by its heavy load?
How of its training, and its after test?

Go back some score of years, judge even ten,
And whilst all else around was making head,
Have we in earnest force moved with the time?
Has education gained as much on us
As on the many kindred to ourselves?
We train a horse to meet a certain trial,
That trial gauges for the coming race
The great event with us: our public form—
And if the trial mislead, miscount the weights,
The training, too, inadequately pressed.
'Tis hard upon the one who has to try
A life-long race, and overweighted lose.
We have a Council, let us look to it;
All is well done in coping with events.
And who shall say that it has ever strained
At airy phantoms of a tiny gnat,
Or swallowed camels that might take our cause
Years to digest?
It should support the interests of all:
First the profession, other interests, too,
The trainer and the trained, but most the last,
For these are young and need protecting help.
They should, on entering a life career,
Be well advised and candidly forewarned
That of the many only few can hope
To gain a place; so many now compete.
The trial prize, the mere diploma grant
May but mislead, and cruel when it does.
'Tis easier and pleasanter to give,
But sometimes kinder the refusal far,
Saving of money, disappointment, time.
It is not kind, it is not even just
To hold out promise of too easy trial:
It looks inviting, bids the many try,
And floods the stream already over-full,
Till by-and-by, and not so far ahead
Will come a ballot, who shall sink or swim?
Well in the training and the trial, too,
Our subject at the first went well up hill;
The course then turned, and on declining ground
We see it limping, signs of breaking down.
Has it been over-ridden and ill-used?
And here indictment falls upon ourselves.
We say it has—and competition keen
Is working hard its ruin and disgrace,
Maybe, not got of greed—perchance of need,
For in the number all must strive to live,
And would that *sans reproche* all strove to live.
We talk of status; status has been our craze,
Have sought to claim what we have failed to earn;
Have been indignant, querulous, forsooth,
Because not priced as we would price ourselves;
Have thought the medical profession is
Seeming unfriendly, slow to patronise.
"Look here upon this picture and on this;
The counterfeit presentment of two brothers;"
And need we wonder?
See our profession mixed with counter trade,
Not all preserve its practice unalloyed;
This is too much the custom now-a-day,

Dabbling in dealing—always risky work—
And holds our troubled calling questionable.
All this were better left in dealer's hand.
These are in their vocation mostly just,
As other folk, and would the more respect
Us in our line, if ours usurped not theirs.
And has it come to this? We stoop so low
That common fairness, etiquette, and pride
Are all forsworn; no love of neighbour left.
The papers now teem with advertisements,
Which cannot fail proclaim our shame abroad:
"Powders and cow-drinks down again in price."
That sounds professional, should make us proud!
Such things as done—and done, too, every day—
Should send a blush, if blushing force were left
To such a thick, impenetrable skin.
To overreach, to undercharge, to cheat,
Filch his good name, and do his neighbour wrong,
Are sorry paving-stones to bridge the way
To honour and respect.
But worse than these; sending from house to house
In shoals, from F.'s and M.'s R.C.V.S.,
Thousands of circulars soliciting,
So unprofessional, and vulgar, too.
The plain and illustrated all are sent,
Some loud illuminated puffs of self;
Some—mean and meagre missives—in coarse type,
Besmirched with horses, prancing and in trot,
With cows' and sheep's heads, heads of dogs and devils—
Even osteology and horse-shoes.
Thus have we seen our case progress up-hill,
And going sound, and since come shambling down;
And all who look and listen may discern
The jade is foundered—ridden for a fall.

Mr. President and Gentlemen,—We have no secrets in professional matters; have told you we have asked ourselves a question; have employed ourselves in the examination of a case, and now submit to you the copy of our certificate: "that we have examined the condition of the veterinary profession, and find it is unsound."

We do not propose to offer opinion on the question of treatment nor the chance of cure, but if we are not alone in our verdict and there be any disposed to try their skill, may we suggest a consultation, far and wide, of all good men and true, "willing to save a life." (Cheers.)

The President remarked that he thought Mr. Cox had drawn attention most ably to a matter worthy of our serious consideration—no less a question than the state of our profession; our attention has been called to the state of professional etiquette, to horse-dealing and advertising. Mr. Cox also very sensibly alludes to the keen competition going on, and suggests whether it should be allowed to deteriorate the profession or whether we shall make a stand against it. It is a paper eminently worthy of consideration and discussion.

Mr. William Hunting, who was received with applause, said he considered Mr. Cox's paper was pessimistical in the last degree, and he was surprised that so honoured a practitioner as Mr. Cox should take such a view. According to his showing, everything is blank and dull, and we are all going wrong. He (Mr. Hunting) was not a pessimist, but an optimist, and he thought we were all doing remarkably well. There always were giants in bygone days, and people are always dwarflings in their own times, and keep coming up

still smaller men, so we are told, but—not a bit of it—the simple fact is, as we begin to get into middle life and advancing years we do not like work so well, and now there are so many young men around us they get some of our clients; they do not necessarily sneak in by doing work at a cheaper rate. Now-a-days everything is cheaper than it used to be: more can now be bought for a sovereign than at any previous time, and no doubt this affected the fees of the veterinary profession, and for this reason Mr. Cox has doubtless more difficulty now in earning £20 than in his younger days. Let us take a wider view of the profession and see how we stand. Scientifically, you surely would not say we are worse than we were; no, we are infinitely better; we are more scientific individually. Did you ever hear of any really scientific men in the profession twenty years ago? no; but there are plenty in it now. In the Army and in our schools, you will find men capable of themselves of undertaking an original piece of scientific research and carrying it through, as no man can remember in the previous history of our profession; and as to practice, why we have better practitioners than we ever had before. Rational treatment is now the prevailing rule, and we understand that if nature is given a chance there is a better prospect of an animal getting right. Modesty compels me to refrain from saying much about literature, but I must say we are advancing from a literary point of view; I am not speaking of periodical literature, but of books. Take Professor Macfadyean, he is a good writer; the contributions of Smith, Nunn, Raymond, and Fleming are all good, and I much doubt if we had better in the days of the giants. As to our social position, may we not claim some advance? As the School Board continues to do its work and cultivate the intelligence of this country, I hope the time will come when the social status of a man will not be judged by the state of his balance at the Bank, but by the balance in his head. If we take our social position to-day, the advance shows that the profession is not an "over-ridden jade" yet, for we have men of high rank in the profession; no end of titled men may be counted among us, and good men too. Now-a-days we take a much more logical view of the symptoms and observe our cases quite as closely as men who have gone before. When considering the question of contagious diseases, our forefathers were wont to say, "There was a change of atmosphere the other day; no doubt the disease is due to that:" another one would come into the stable and see manure about, immediately he would conclude the disease is due to dirt; whilst still another man would say it is overwork. In every single instance they come to a different conclusion. At the present time we go a little further, and say that these diseases occur under all sorts of circumstances, but we do not overlook contagion. Even compared with our sister profession, we do our observations well. Not very long since the sister profession discovered that scarlet fever came from cows. It is a feather in our cap to know, that one of our profession pointed out, at the time, that these observations were wrong. Professor Axe pointed out that there was a possibility and a very great probability of the infection coming from the human species. I mention this instance, one which occurs to me most readily, as showing where the veterinary profession observed more cutely, and concluded more correctly, than our noble sister profession. Our teaching is now better than ever it was. As to horse-dealing —why is horse-dealing any worse than house-dealing? Again, there is no disgrace attached to men who engage in horse-racing, and that is a far more villainous proceeding than horse-dealing, but it depends on the way the dealing is done. If one buys a horse, knowing it to be wrong, for £20, and sells it for £150, why of course it is wrong, but if an actually good one is bought for £20 and you are fortunate enough to get £150 for it, you have done perfectly right, and there is nothing derogatory in it. We claim a lot—I think that was one of the stanzas Mr. Cox read out to us—but have not done much,

or words to that effect. It may be true, but I have not heard men make very great claims. We claim to be professional men—so we are. We claim to be scientific men—are we not scientific? And we claim to be honest, to be progressive, and have we not shown that we are progressive? Etiquette was mentioned. Professional etiquette, I consider, is to treat a man in the way you would have a man treat you. When you get to anything more specific than that you are pretty sure to go wrong. (Applause.)

The PRESIDENT then asked if any other gentleman wished to offer any remarks, and there being no response, said it does not quite appear whether the meeting, as a whole, endorses the condemnatory remarks of Mr. Cox, or consents to accept Mr. Hunting as champion on its behalf. Certainly there is good ground for the essayist's strictures on many points. Mr. Hunting's injunction, "Do to others as you would they should do to you," covers wide ground, and the greatest stickler for etiquette could not desire more. I, for one, hope that in professional etiquette we shall greatly improve, and as regards our other shortcomings, touched on by Mr. Cox, that we shall, in the course of our progress, gradually leave them behind us. (Applause.)

Mr. COX, in reply, said: I have gained my point, and I shall go home shaking hands with myself, feeling that in some slight way I have done my duty. I am only too pleased that our friend, Mr. Hunting, who is so excellent an incendiary, should have set ablaze my little bundle of faggots. There is little for me to attempt to controvert or reply to. If there are defects, we ought not to be blind to them. If I have over-estimated the facts according to some, I am pleased to find that I am not altogether one in that feeling. I hope not any one of you will encounter the things I have referred to. Wishing that my paper had been more worthy of your acceptance, I thank you for your courtesy in listening. (Applause.)

Mr. WRAGG proposed, and Mr. SHEATHER seconded, a vote of thanks to Mr. Cox for his excellent paper, which was carried unanimously, as was a vote of thanks to Mr. Wragg for his *post-mortem* specimen.

The PRESIDENT announced that a special meeting would shortly be held to consider the arrears in subscriptions, and whether or not certain gentlemen in arrears should be struck off the list in accordance with Rule 12 of the Society.

SIDNEY VILLAR, *Hon. Sec.*

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

A MEETING of the above Association was held at the First Avenue Hotel, Holborn, London, on the 30th November, F. W. Wragg, Esq., President of the Association, in the chair.

After the minutes of last meeting were read and confirmed, Mr. Sydney J. Blanchard, M.R.C.V.S., Highworth, Wilts, was unanimously elected a member of the Association.

The Hon. Secretary then read the Report of the Instrument Committee, authorising the President to purchase the following instruments, viz., Professor Robertson's tooth shears and forceps; Professor Pritchard's tooth-forceps; Gowing's tooth-chisel; Arnold's tooth-forceps; double tooth-rasp; oak case covered in leather.

The President placed the case with the instruments on the table.

Rules were then adopted for regulating the loan of the instruments to members of the Association.

Mr. J. P. S. Walker, Hon. Treasurer, read a statement of accounts for the past year, which showed a satisfactory balance in favour of the Association.

The following office-bearers were unanimously elected for the ensuing year: President, Mr. G. A. Dreeve (Abingdon); Vice-Presidents, Mr. A. (Wheatley (Reading), Mr. W. Wilson (Berkhamsted), Mr. F. W. Wragg

(London), and Mr. H. Kidd (Hungerford); Hon. Treasurer, Mr. J. P. S. Walker (Oxford); Hon. Secretary, Mr. H. Kidd.

It was unanimously resolved to hold the annual meeting in February, at Reading.

The Hon. Secretary announced that he had received on behalf of the Association two volumes from Professor Frank S. Billings, Director of the Pathological College of Nebraska—one on Yellow Fever, and the other on Swine-plague; and upon the motion of Mr. Simpson, seconded by Mr. Wilson, it was decided that the thanks of the Society be forwarded to the gentleman who had sent them.

DISCUSSION ON PROFESSOR WALLEY'S PAPER ON OPHTHALMIA.

The PRESIDENT said, Our next business is the discussion on Professor Walley's paper, which has been printed and circulated amongst the members, and I must say it is an exceedingly interesting one. Professor Walley came all the way from Edinburgh for the purpose of reading it, and I should like to hear any remarks that our members may have to make respecting it.

Mr. HURNDALL: I have not had the opportunity of reading the paper very carefully, but it appears to me, from my own view of the question, that Professor Walley has gone into the subject very deeply and closely, and probably far more so than, in ordinary practice, we should ever have had our attention drawn to it. There are two forms of Ophthalmia which strike me as most likely to demand our notice—one in the horse, which Professor Walley describes as the superficial form, and which is of deep interest to us; and the second that in the dog. The first, so far as my experience has gone, and that has been for some years now, strikes me as arising mainly from two causes—from noxious gases, or from draughts or cold winds. That in the dog, I believe, as a rule, follows Distemper; and I have formed the opinion that that is a specific Ophthalmia, because I have always been of the opinion that Distemper is a specific disease. Of course there are various opinions held as to its character, and there are many forms of illness which dogs suffer from which are not attributed to Distemper, but which I think may still be recognised as having some connection with Distemper. This I have noticed develop after a dog has got over the worst part of an ailing: it seems generally to settle itself in the eye, and unless treated at once, it may lead to ulceration of the cornea, and that I take to arise from the specific virus associated with Distemper. There is one point of which Professor Walley does not take any notice—namely, a remedy which I have found extremely useful, nitrate of silver, both for external and internal application. I observe that Professor Walley remarks that where there is purulent Ophthalmia the bi-chloride of mercury is mentioned as a remedy; but he speaks of it as a germicide, and from that it would seem that he has satisfied himself that it is a germicide. However, I have been instrumental in curing it with bichloride of mercury administered internally and warm water externally. There is one other point Professor Walley speaks of, viz., the usefulness of arnica, and I can confirm that in cases of traumatic Ophthalmia, but not in any others. Arnica is a specific application for all injuries of a traumatic character if used in appropriate strength according to the delicacy of the organ, and so likewise is bichloride of mercury as prepared by those very much maligned gentlemen the homœopathic chemists; and according to the strength and size of the animal I should give 5, 10, or 20 grains of mixture prepared on the scale of 1 in 1,000.

Mr. WILSON: When we are speaking of the effects of a drug which will kill germs, and which you intimate this special form of disease to include, I think we should satisfy ourselves as to its strength and potency to accomplish its object. I know that bichloride of mercury is generally

accepted as one of the best agents we can employ; but when you give it in these infinitesimal doses it is a question whether it can be efficacious.

Mr. HURNDALL: Well, we understand that Professor Walley considers this form of Ophthalmia should be treated with a germicide, and I may remark that I have used it internally, whilst he has used it externally, and have cured various forms of Ophthalmia; therefore it does not really matter whether it is a germ or whether it is not; but, quite apart from that, you will find that wherever you can get a chemical test, by the use of the proportions I have named, it is quite capable of exterminating germs. I don't look upon it as a question of amount at all, since a very minute portion—a far less portion than I have named, in fact—is discernible by chemical tests.

Mr. JONES: In purulent Ophthalmia I have found quinine the best and most efficacious thing that I have tried. I dress it with a camel's-hair brush in the proportion of five grains to the ounce.

Mr. KIDD said he had on several occasions observed Ophthalmia in sheep, very few in a flock escaping the attack, which he thought was due to grazing on pasture which was grown on poor, thin soil, and where there was a large proportion of long grasses. The attack was always most severe when there was a succession of heavy dews, and he considered that whilst the sheep were grazing these long, wet grasses came in contact with the eyes, injuring them, so that ultimately it produced Ophthalmia. The treatment was simple, and in most cases successful: change the pasture, and give a mild aperient. He had frequently seen in horses' eyes a peculiar dark, glassy appearance, causing defect of vision and opacity. Both eyes are affected alike. He has endeavoured carefully to discover the cause of this ophthalmic condition. The conclusion he has come to is that it is the result of medicine given clandestinely for a length of time, with the particular object of improving the "horses' appearance." He was not able to say definitely what is the particular medicine which had been used, but was of opinion that it was a preparation of antimony, probably tartar-emetic. This condition is very difficult to cure, and would not generally succeed without first thoroughly cleansing the system of the horse, besides external remedies. He should like to hear the opinion of members as to whether there are any agents which, if given internally, would produce this ophthalmic condition, and what is the particular agent.

Mr. WILSON: There is a species of Ophthalmic among cattle and calves that we call sporadic; that is, we get to see a number of animals fall down ill with it, and it seems, unless we apply a more powerful remedy, like nitrate of silver, ulceration will follow in the cornea. I have had a perfect epidemic of it. From what irritation follows in the first instance I don't know, but it has been quite an epizootic.

Mr. SIMPSON: In answer to Mr. Kidd's concluding remark, I may say that I don't know of anything in our pharmacopœia—and I much doubt if there is anything—that you could employ that would produce Ophthalmia. I don't know of any medicines, and think you would have difficulty in finding one.

Mr. WALKER: I think we, as an Association, are very greatly indebted to Professor Walley for his excellent paper. (Hear, hear.) It should stimulate us to investigate minutely the different diseases of the eye which we meet with. I have observed a peculiar disease on several occasions which Professor Walley does not refer to, and which is not spoken of in our text-books, and which I cannot describe better than term it Snowflake. It is an affection of the vitreous humour. Horses do not go blind from it if treatment be adopted in the early stages.

The PRESIDENT said, I think our thanks are due to Professor Walley for his kindness in coming among us, and giving us such a highly interesting paper. (Hear, hear.) I should much have liked it had Professor Walley

entered more into Cataract, because that is one of the principal diseases of the eye we are called upon to give an opinion upon; and there is more often a difference of opinion as to whether or not it is Cataract than upon any other disease on which we are called to give an opinion. I have seen horses with Cataract that were able to jump and trot, and to avoid an obstacle quite as well as those which possessed their normal sight; and I am of opinion that they do not interfere with the sight—at all events, not for many years. I remember a horse that was bought by me; it was suffering from Cataract, and was in as good a state at the end of that time as at the beginning. I brought the case under the notice of my friend Professor Pritchard, and he remarked that he would not like to ride the animal over a fence. Well, we set up a bar some two inches square, and she cleared that as many times as I liked to ask her, evidently showing that although she had Cataract in each eye, it did not affect her vision. She was subsequently sold to a master of hounds, and was used hunting in Essex during the cub-hunting, where it is often very dark on account of the overhanging bushes and trees, but she never once put a foot wrong or had a fall during the whole season.

Mr. HURNDALL said I did not notice Argent. nit. as a remedy. On page 12 of the reprint of my paper I refer to its use in Corneal Ulceration, and in reference to its use in purulent Ophthalmia I classified it as a germicide, though I did not specify it particularly. I fail to see what influence it can have on the eye when given internally. He also questions the germicide action of bichloride of mercury, and yet he asserts that it is useful in traumatic injuries. In what way is it useful here except as a germicide? I should have thought the germicide properties of bichloride of mercury were sufficiently proved by this time. I do not give it internally, but I give Calomel or Hydrarg. c. cretæ largely, though only as alteratives and from the well-known effects of mercury in facilitating the removal of inflammatory products. It would be absurd to give mercury internally as a germicide.

Mr. JONES—I have tried quinine as an extra remedy, but did not get good results from it.

Mr. KIDD asks if there is any agent known that will produce Ophthalmia? No, but the intra-venous injection of sugar or salt will produce temporary Cataract (opacity).

The "Snowflake" Cataract, or "Scintillating" Cataract, mentioned by Mr. Walker, I have seen twice in my life. It is associated with liquefaction of the vitreous humour, and is due either to breaking up of an old cataractous lens or to breaking up of an exudate.

The PRESIDENT regretted that I had not referred to Cataract. I could not possibly do so in such limited space, especially as it is a sequel of Ophthalmia, but I may remark that his statement as to a horse being able to see with Cataract is contrary to all practical observation, and unless the Cataract be small and out of the line of vision, the retention of sight would be contrary to all physical laws.

After a cordial vote of thanks was given to Professor WALLEY and to the retiring PRESIDENT for his conduct in the chair, the meeting terminated.

H. KIDD, *Hon. Sec.*

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

THE last quarterly meeting of the year was held at the Queen's Hotel, Leeds, on October 26th, the President, Mr. P. Deighton, in the chair. The following members were present, viz.:—Messrs. George Whitehead, G. T. Pickering, J. M. Axe, R. L. Robertson, W. Lodge, George W. Beck, G. W. Carter, Joseph S. Carter, A. W. Briggs, Thomas Fletcher, A. McCormick, Joe Clarkson, J. E. Scriven, A. W. Mason, M. Robinson, H. Snarry, Herbert Pollard, G. E. Bowman, and the Secretary (W. F. Greenhalgh). Messrs

C. Phillips, A.V.D. (15th Hussars), E. W. Anderton (student), and Rastrich were present as visitors. Apologies for non-attendance were read by the Secretary from the following: Professors Williams and J. Axe; and Messrs. Ben Smith, F. Danby, James Best, H. Cooper, P. Carter, Greaves, etc. After the minutes of the previous meeting had been read and confirmed—

The SECRETARY said he had received on behalf of the Society two books from Mr. Billings, of the Patho-biological Laboratory, University of Nebraska. One was on Swine-plague, and the other on Southern Cattle-plague.

Mr. BRIGGS proposed, and Mr. G. CARTER seconded a resolution, which was carried, that the Secretary be instructed to acknowledge the receipt of the books, and to thank Mr. Billings.

The SECRETARY read a letter from Professor Axe, in which that gentleman stated that at the next meeting he would be willing to contribute a lecture on Laryngotomy and Laryngo-tracheotomy.

Mr. LODGE proposed, and Mr. CARTER seconded, that Professor Axe be thanked for his offer, and that it should be accepted.—Carried.

The PRESIDENT drew the attention of the members to the fact that he had communicated to every Member of Parliament representing Yorkshire constituencies, asking them to use their endeavours to procure an exemption from the horse-tax for the horses of veterinary surgeons. He had only had two replies out of the number, but both were favourable.

Mr. CARTER proposed that "the matter be entered on the minutes," seconded by Mr. Mason, and carried.

Mr. LODGE related the case of a black mare, which had been lame for a period of six months or so. She had been treated for various lamenesses by both himself and three or four other veterinary surgeons, and he was bound to confess that he was not at all clear as to the nature or cause of the lameness. He had had the animal brought from Dewsbury, and he invited the members to express their opinions on the matter. At a later stage the members adjourned for an inspection of the animal. Various theories were promulgated, but no definite opinion was formed on the matter.

Mr. FLETCHER exhibited a morbid specimen of intussusception of the jejunem of a St. Bernard dog, and related the history of the case. The animal had been noticed to be in anything but its ordinary health for a fortnight before Mr. Fletcher was consulted, but the animal died shortly after. There was an entire absence of the usual symptoms present in such cases, and the length of time the animal survived after the commencement of the intussusception, in which there was sufficient room for the passage of the fluid fæces which alone had passed from the animal, he considered was most remarkable.

Other morbid specimens and interesting cases were related by Mr. Whitehead and Mr. George Carter, the latter of whom related two cases. The first case was in a cow which had lately been in œstrum, and had been seen to be ridden by the other cows in the field with her. At night a slight enlargement was observed upon the lumbar region of the back, about the size of a man's fist. This gradually enlarged, until about a fortnight afterwards, when he found the cow to present the appearance of a camel. The swelling extended from the median line of the spine down each side of the animal to about the lower border of the ribs, and was as nearly like a large bed bolster placed across the back as anything he could describe. He opened the swelling at the most dependant part of each side, and inserted his hand, and removed six pailfuls of coagulated blood. The wounds healed rapidly, with very little suppuration. The second case was similar in character, but the swelling extended over the outer surface of the stifle joint. He considered the cause in both cases to have been external violence, but he would like to know how, and from what vessel, such a large quantity of blood could be thrown out into the subcutaneous tissue of the lumbar region, and in neither case did any bleeding take place after the evacuation of the swelling.

The PRESIDENT, Mr. FLETCHER, and others had seen similar cases, but not of the magnitude of the first case of Mr. Carter's, and it was thought that in some regions it would be difficult to distinguish them from ventral hernia.

Mr. PICKERING (York) read a paper on

SOME DISEASES OF THE BOWELS.

He said, Mr. President and Gentlemen,—In bringing before you this afternoon subject of Some Diseases of the Bowels, I think you will be all prepared to admit the importance of the subject, which, in the discharge of our professional duties, so often and so prominently comes before our notice. Taking the elementary tract as a whole, we find the intestines most generally affected in the horse, the stomach being small in comparison to the size of the animal and the remainder of the digestive tract.

Amongst some of the causes of the disease may be mentioned age. We know that aged horses, as a rule, are more liable to suffer than young ones: there is not the amount of tone in the system; they cannot stand the amount of bulky food, the digestion not being so good and so quick, the food not being properly masticated, on account of the teeth often being faulty; the circulation not being so good, the amount of gastric juice secreted is sometimes not sufficient, aged horses often being gross feeders. In some horses Colic symptoms are often caused by worms, especially those which are taken up from grass, and when in a weakly condition.

Hereditary Causes.—Are diseases of the bowels hereditary? Why not? Cannot an amount of susceptibility be transmitted from parent to progeny? Can an animal inherit diseases such as those of the bones, for example, Splints, etc.? May there not be a diathesis transmitted by which the structure of the bowels is more susceptible to disease in some than in others? If cases were traced carefully back, might we not find that the sire or the dam had been subject to some disease of the bowels or other? Take, for example, three or four horses in a stable; the same surroundings, the same diet, the same amount of work, yet one has an attack of Colic, for which it is impossible to trace the cause.

Are the diseases of the bowels in some cases epidemic? How is it we so often find several cases together in one district? hardly ever a single case? On the other hand, are they merely coincidents? I admit the weather has a great deal to do with the prevalence of the disease. How often, with sudden changes especially, do we have numbers of cases, which are often a boon to us, although a misfortune to others. I might say cold, wet, and sudden change are often predisposing causes in these diseases, especially those of an inflammatory type.

Dietetic errors, I think, we must all admit, are amongst the most important, as being the cause of those cases of a Colicky nature; either the food has not been properly masticated, bolted, the quantity taken too much, improper quality, change of food from soft to hard, etc.

Parasites of different kinds are often the cause of disease, and no doubt all of us can call to mind cases that have been caused by these troublesome creatures. I might mention a case in passing, briefly. An aged mare the owner had had for two or three years had been suffering from an injury to the neck. There had been a good deal of suppuration, etc. After treatment for a short time, the mare seemed to be on the improve, when, suddenly, violent abdominal symptoms set in. The mare had violent continuous abdominal pains, pulse feeble, respiration 50, temperature 104, mucous membranes highly injected, and all symptoms of acute Enteritis. Anodynes injected, fomentation, etc., were tried without avail, and nothing seemed to relieve her. She died in about five hours after being discovered. The *post-mortem* examination revealed large

quantities of strongyles, ascari, and bots. Some of the strongyles had penetrated through the bowels, setting up irritation, etc.

Calculi of various kinds may also be enumerated.

Temperament.—Horses of a sympathetic temperament, as a rule, are more predisposed to these diseases than those of a dietetic nature, those of a sanguine being more violent and difficult to manage.

The cases I wish more especially to bring before your notice are those of an inflammatory type and those of a non-inflammatory type.

Now, cases of Enteritis, from the first, are they specific? or are they developed, as it were, from cases of Colic, unrelieved obstruction, etc., which they are sometimes? I have no doubt there are hundreds of cases of Colic to which professional men are never called to attend, each of the owners having his own specific. How often, also, are we called too late, when, if we had the chance, we would rather not have anything to do with the case, as we can do no good as regards effecting a cure. We can tell after, an examination, that cases are hopeless.

I will, for the sake of argument, as the farmers say, divide them into two classes—Colic and Inflammation.

Spasmodic Colic.—One of the most frequent, affecting all kinds of horses, due to spasm or violent muscular contraction of the muscles of the bowels, pressure on the nerves causing the most violent pain. This disease may be induced by an over-distended state of the bowels, or due to an interference with the nerve supply of the part. The symptoms are animal pawing, restless, whisking the tail, curling himself up, throwing himself violently down, rolling, turning on the back with the legs in the air, getting up, looking back, ease for a while, and then resumption of pain, attempts to stool, and the sphincter of the bladder being contracted, the effort is in vain; periods of freedom from pain, and the animal will sometimes eat a little; pulse almost normal, 45 to 50 and full; temperature 100° F.; respiration, except where knocking about, normal. As treatment, I would recommend anodynes, stimulants, back rake, clysters, fomentation or blister, and sometimes use catheter; do not allow the animal to roll, and keep him quiet if possible.

With regard to Apoplexy of the bowels, there has been a great deal of discussion on the subject. I have found in the heavier breeds that there had been no tympanitis at all. The bowels were congested—sometimes the large bowels, and sometimes a portion of the small. The most important thing in the treatment, I consider, is the diagnosis of the case. We should ascertain whether the animal has suffered before from Colic. In an ordinary case of Colic I give a five-dram physic-ball. Linseed oil, I find, is most generally used for horses suffering from an affection of the bowels. It seems to be the first thing that a horse-keeper or a farmer flies to. I wish to ask this question: In cases of obstruction of the bowels does giving a pint of linseed oil, warm, in any way interfere or accelerate the disease?

Croton oil is only resorted to in very violent cases. Magnesia is not much used. In some cases very large quantities of purgatives, such as aloes, can be given, and the animal ultimately recover. I have found physosdigmia to have a very beneficial effect. I have injected it in various places, and in some cases I have found it to act within an hour.

Anodynes are most important in cases of great pain, for nothing relieves the animal so well. Chloral I have tried in some cases, but I prefer opium. I have found chlorodyne of very great service. It is a very good anodyne, and possesses great stimulating qualities.

Stimulants.—I think stimulants in small quantities a very excellent protective medicine. In cases where fomentation can be carried out I believe there is no treatment to excel it.

Inflammation of the bowels is one of the most fatal diseases the horse is

subject to, and is very often taken for Colic. The diagnosis in this disease is most important, as a mistake made at the outset, in the treatment, only hastens the fatal issue. We must excuse a non-professional man from making a mistake in the diagnosis, but we should be most careful, as very often the inexperienced say that after a certain length of time a bad case of Colic or obstruction is a case of inflammation.

Symptoms.—Anxious expression, pawing, restless, lying down more carefully, as a rule, than in Colic, rolling, sweating, cold extremities, quivering of muscles, whisking tail, abdominal muscles fixed and tense, tenderness on pressure, back arched, anxiously looking back, lying down, pulse first quick and full, 60 to 80, afterwards quick, feeble, and thready, temperature 103 to 105° F., respiration 30 to 60, mucous membranes injected, etc., etc. It depends in which stage we see the patient as to the course of treatment we shall adopt. If we see him in the first stage there is a chance, when the pulse is full, quick, and wiry. As to treatment, in the first stage I bleed the animal, use anodynes, fomentation, and blister.

Bleeding.—If I had been asked three years ago to bleed a horse or a cow, I would not have done it. I at that time had never seen but one bled, and that was when Professor Robertson once showed us, at the College, how the operation should be performed. I now, however, believe that in protracted cases of abdominal pains bleeding is beneficial. How is that? In certain cases you all know how long it is before medicine acts. It goes into the system and does not pass along the bowels; but by bleeding—in cases where there is a full, hard pulse, and where the animal is in violent pain, I believe bleeding is of the utmost advantage; I can name scores of cases where it has been of the greatest benefit. In cases of obstruction of the bowels, after the obstruction has existed for some time, I believe blood-letting is of great value. During the last year or two I notice the medical opinion is much more in favour of bleeding, but not indiscriminately, for I believe all the evil effects attributed to the operation are in its indiscriminate application.

Mr. FLETCHER asked what was Mr. PICKERING'S definite system by which he diagnosed Apoplexy of the bowels.

Mr. PICKERING said he had found cases of Apoplexy of the bowels in heavy horses, horses getting a large quantity of bulky food, and horses that had been subject to attacks of obstruction of the bowels. He thought it was caused by a strain.

Mr. FLETCHER said his experience was that there was scarcely a member of the profession who could diagnose a case of Apoplexy of the bowels. It was a matter of the greatest difficulty. With regard to what Mr. Pickering had said as to hereditary causes, no doubt the digestive organs of animals, like those of the animal man, varied greatly in their power of assimilation with regard to the different foods which might be introduced into the system. In cases of non-assimilation of course abdominal pains would follow, and the digestive organs be thrown out of gear. There could be no doubt that the weather had a detrimental effect on the horse. After warm, settled weather let there but come on some cold showers, and veterinary surgeons were speedily called to one case and then another. With regard to bleeding he was of the same opinion as Mr. Pickering. He had bled more during the last three or four years than he had done in the twelve or fourteen years previous.

Mr. G. CARTER did not think Apoplexy of the bowels was so difficult to diagnose as had been stated. He found that the cases almost always occurred in rough, coarse-bred cart-horses, and he had never seen a case in a high-bred horse, or a case that lasted, from the time the animal was seized, more than twelve hours. In most cases they would find that the large bowel was very much bigger than it was naturally.

Mr. FLETCHER spoke of a case of Apoplexy of the bowels he had had under treatment where the animal lived no less than twelve days. In such cases the difficulty was to get any medicine, especially purgative, to act at all. In one case the animal lived eight days, and in another twelve days. The pain was not continuous, but as soon as the horses took drink or food the pain commenced again.

Mr. JOS. CARTER had seen many cases lasting from eight to twelve hours, but he never knew one to last three or four days. He thought linseed oil was very useful; he liked it better than castor oil, and there was not as much danger as in using aloes.

Mr. BOWMAN (Leeds) thought there was great credit due to Mr. Pickering for the admirable paper he had read to them. He had no doubt that bleeding had saved the life of many a horse, and would do so again. He went on to describe the cases of two horses he had had under treatment, which for no apparent reason fell off rapidly in condition, and ultimately died. The spleen of one he found to weigh two and a half stones. The diaphragm was covered by small tumours. The spleen of one of the animals he took to the Leeds Medical College, and he and Dr. Jacob made a microscopical examination of it, but they could find no microbes in it at all. The deposits were exactly like warts; they were not tubercular.

Mr. G. CARTER stated the case of a bay horse he examined and passed sound. He worked for about five months, and then was under treatment for Pleurisy, but he died in four days. His attention was called by the knacker to the lungs, which weighed no less than eight stones, the spleen weighed ten to twelve pounds, and the kidneys were also affected. The substance of the liver was studded over with a lymphoid deposit, and he concluded it was a case of Lymphadenoma. He sent a specimen to Professor McCall, asking his opinion, and the reply was to the effect that it was one of the finest cases of Lymphadenoma that he had ever seen.

Mr. SNARRY (York) remarked that he had had under treatment the well-known racing mare Apology. She pined away, and was ultimately shot. The organs were covered with a deposit similar to that described by Mr. Bowman. Some years before the mare had had a similar attack, but got over it.

Mr. BRIGGS (Halifax) said he relied upon enemas in cases of stoppage of the bowels, and had found the best results from such treatment. He had never known a case of Apoplexy of the bowels last above twelve or fourteen hours.

Mr. FLETCHER: I have had cases of Apoplexy where the animals have lived six, seven, and twelve days.

On the motion of Mr. WHITEHEAD, seconded by Mr. AXE, a hearty vote of thanks was accorded to Mr. Pickering for his valuable paper.

The Hon. Treasurer (Mr. SCRIVEN) submitted his annual financial statement.

Mr. CARTER proposed, and Mr. BRIGGS seconded, that the statement be adopted, and this was unanimously agreed to.

On the motion of Mr. W. F. GREENHALGH, seconded by Mr. BOWMAN, Mr. Lodge, of Dewsbury, was elected President of the Association for the ensuing year.

Mr. Deighton, Mr. Bowman, and Mr. Briggs were elected Vice-Presidents, and Mr. Greenhalgh and Mr. Scriven were re-elected Hon. Secretary and Hon. Treasurer respectively.

The meeting concluded by hearty votes of thanks being accorded to the late President, the Hon. Secretary, and the Hon. Treasurer for the valuable services they had rendered to the Association during the year.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

On November 16th a meeting of the above-named Association was held at the Hop Market Hotel, Worcester. Mr. R. C. Trigger, Newcastle-under-Lyne, the President, occupied the chair, and amongst those present were Professor W. Owen Williams, Edinburgh; Mr. J. B. Wolstenholme, President of the Lancashire Veterinary Association; Messrs. J. M. Parker, H. M. Stanley, Mark Tailby, Birmingham; H. Olver, Tamworth; R. H. Cartwright, Beddard, Wolverhampton; F. B. Jones, Leicester; F. Fletcher, Coventry; W. S. Carless, F. H. Pinkett, A. J. Cayless, Worcester; F. W. Barling, Ross; T. H. Merrick, Northampton; Hills, Leamington; Over, Rugby; Chambers, Dudley; R. R. Cole, John Firr, Hinckley; George Smith, Tunstall; G. Wartnaby, Burton-on-Trent; James Blakeway, Stourbridge; William Carless, Stafford; H. Collett, West Bromwich; the Honorary Treasurer, F. Blakeway, Kidderminster; and the Honorary Secretary, J. Malcolm, Birmingham.

The minutes of the last meeting having been read and confirmed, the Secretary announced the receipt of letters regretting inability to be present from Sir H. Simpson, Windsor; Professors McFadyean, Williams, and Walley, Edinburgh; Messrs. Pyalt, Notts; Taylor, Manchester; Leather, Liverpool; Freer, Uppingham; Barling, Newnham; Captain Russell; Messrs. Golden, Martham; Green, Dudley; Barber, Rugby; Pritchard, Wolverhampton; Goodall, Melton Mowbray; and Wragg, London.

It was stated that Mr. H. R. Perrins, Worcester, had written a letter resigning his membership of the Association, but it was decided to ask him to reconsider the matter.

On the motion of the President, seconded by Mr. Parker, Mr. W. Hunting, of Fulham Road, London, editor of the *Veterinary Record*, was elected an Honorary Associate of the Society.

The Cure of Roaring.

Mr. F. B. Jones, Leicester, then proceeded to exhibit and explain his tracheotomy tube and instruments used in the laryngeal operation for the cure of Roaring. He said that, as they must all know, Roaring was a paralysis of muscles, ending in inability of those muscles to open what Mr. Clarke called the door of the larynx for the admission of air. The paralysis of the muscles could not be cured, and the only thing was to do something to relieve the breathing, either by an operation on the larynx or by making below an auxiliary opening, and inserting a tube for the animal to breathe through.

Mr. Jones showed, by demonstration on a larynx of a horse, the methods employed by him for the excision of the left vocal, and of both vocal cords, of the cartilage of Santorini, for the division of the arytenoids or separation of both arytenoids, and for the entire removal by a lateral operation from outside of the left arytenoid cartilage. The various ligature processes were next explained, and a description of the operation of tracheotomy, with practical demonstrations, followed. When inserted, the tube might be taken in and out once a day; at night the aperture should be closed by the plug. In anæstheticising a horse for the laryngeal operation he employed the A.1, C.2, E.3 mixture—alcohol one proportion, chloroform two, ether three—as it diminished the risk of shock to the heart. When they had got the horse under the influence of that mixture, they might go on with chloroform. With care they might in this way keep a horse down under its influence for two or three hours. It was necessary to bear in mind that in casting a horse and preparing him for an operation, a considerable shock was inflicted, and if they administered the anæsthetic too hastily they might get stoppage of the heart's action and of breathing. It was best, therefore, to wait a few minutes, and to watch the animal's breathing.

The reason why he preferred the A. C. E. mixture was because the ether

was most volatile, and was given off most freely; when the mixture was first inhaled it was more stimulating, and compared with chloroform, less depressing to the heart, which would continue to pulsate for a short time, even when breathing was stopped.

Chloroform was less stimulating, and when concentrated had a peculiarly depressing effect on the heart's action, and if used carelessly, by an inexperienced person, total arrest of breathing was likely to result. If the breathing ceased for a moment they should perform artificial respiration, which was best done by sitting up and down on the horse's side. In this way they could make the horse breathe for several minutes. Directly they saw any sign of stertorous breathing they should pull the horse's tongue out of the mouth, and draw it forward to relieve any mechanical obstruction. This also drew the epiglottis forward, and enlarged the space for the admission of air. Stertorous breathing was liable to occur in roarers. He found from experience that it was necessary to prepare a horse for a couple of days before an operation, especially if it was a long one and the horse had to be anæstheticised; otherwise there was great trouble from abdominal pains, which were owing to the paralysis of the nerve centrse of the bowels produced by the anæsthetic. Before an operation he therefore gave a horse plenty of linseed and mashes. They should never be in a hurry to get the horse up on his legs after chloroform; if they did, being stupefied from the effect of the anæsthetic, he would not have the proper use of his limbs, and might tumble about and hurt himself. The best way was to let the horse sleep off the effects of the anæsthetic, so long as he was breathing properly. He was not able to lay down any rule as to the quantity of chloroform and ether that should be used, but he had never been able to put a horse under the influence of chloroform with an ounce and a half. It was no use beginning the operation unless the patient was thoroughly under the influence of the anæsthetic, quite insensible to pain, and showing a perfect relaxation of his muscles, and abolition of the conjunctival and other reflex movements. In one case, he had used as much as thirty-six ounces of the A. C. E. mixture. The mixture should always be made up fresh before being used. The operator should ascertain the patient's pulse and heart action. A quick pulse, as a rule, ensured the patient getting under the influence of the anæsthetic quicker; a full pulse and strong action of heart required more chloroform and ether. In several cases he had noticed a paralysis of the off fore limb, but he could not say from what this arose. He did not know that chloroform had any local effect. The paralysed limb got right, but it was a great bother for a time. Now, Mr. Fleming claimed to have been the first to have proposed the excision of the left vocal cord for the cure of roaring, and he had been credited with having obtained the greatest achievement in veterinary surgery by so doing. He should like to say a word or two on this claim. It appeared to him something like an attempt to obtain credit under false pretences. Mr. Fleming said no one ever opened the larynx in this country before his publication this year; but Mr. R. H. Clarke and Mr. Horsley did it in 1887, and Mr. Gamgee some years ago. From a work by Dr. Möller, of the Berlin Veterinary School, it appeared that twenty-five years ago K. Gunther had performed these operations, viz.:—(1) excision of both vocal cords; (2) excision of left vocal cord; (3) excision of left vocal cord and sacculus laryngus; (4) complete removal of arytenoid cartilage; (5) and various partial removal of arytenoids. He met with no success except in No. 5—partial removal of arytenoids. Gerlach performed a partial excision of the arytenoid; result, unsatisfactory. Stockfleth excised the upper part of the arytenoid and applied cautery; result, unsatisfactory. Various operators had repeated Stockfleth's operation, but also with unsatisfactory results. An operation for the excision of the vocal cord was de-

scribed by Gouband in 1869. Möller himself had performed various operations: (1) excision of the vocal cord; same result as Gunther, quite useless; (2) opening crico-arytenoid joint from incision through cricoid and first two rings of trachea; (3) myotomy of left crico-arytenoidens posticus, with a view to shortening muscles from cicatricial contractors; (4) fastening arytenoid and thyroid together by ligature; (5) complete excision of arytenoid from within. There were some favourable results from the last three forms of operation, especially No. 5. The work from which Mr. Jones quotes the latter is: "Das Kehlkopf Pfeifen der Pferde Hemiphlegia Laryngis," by Dr. H. Möller, Veterinary School, Berlin; published at Stuttgart, 1888. In conclusion, Mr. Jones said he did not believe they yet thoroughly knew the physiology of the larynx. They wanted to know more precisely the action of the parts during life, during breathing. Up to the present time the operation for the removal of the vocal cords was in an experimental stage.

The PRESIDENT remarked that they were all indebted to Mr. Jones for the able and kindly manner in which he had brought the subject before them. It was decided to defer discussion till a future meeting, when Mr. Jones promised to again deal with the subject.

TUBERCULOSIS.

A number of specimens showing tubercle bacilli and Tuberculosis from the various domestic animals, kindly lent for the occasion by Professor McFadyean, were exhibited under microscopes. In most specimens the bacilli were seen very clearly, and were particularly distinct in sections from a cat's lung and from the glands of a horse. Professor Williams also exhibited a well-marked specimen of tubercle bacilli in expectorate.

Mr. OLVER, in opening a discussion on Tuberculosis, said their President had suggested to him at first that they should limit it to urging upon the powers that be the advisability of including this disease in the provisions of the Contagious Diseases (Animals) Act. He was able, however, to inform the President that it was practically decided to so include it, and no doubt in a short time it would be an accomplished fact, and known to the country generally. He thought they would all admit it was quite right Tuberculosis should be included with the other diseases named in the Act. He need not go into any detailed history of the subject. They were all aware that comparatively few years ago it was a disease about which very little was known. It was called by various local names in different parts, such as "Grapes," "Wasters," and "Angleberries;" occasionally animals were found to die from it; but the true pathology of the disease was not recognised. There were all sorts of assumptions with regard to it, but it was not until microscopes of considerable power were used in 1880 or 1882 that the tubercle bacillus was recognised. Since that time a great advance had been made in knowledge of the subject, and also, it would seem, in the progress of the disease itself.

Veterinary surgeons who practised in country districts knew that amongst cattle particularly it was one of the most prevalent of diseases; and he believed himself it was the cause of greater loss to agriculturists than all the other contagious diseases put together. With Cattle-plague and Pleuro-pneumonia the animals were slaughtered, and they knew the end of it; but Tuberculosis was so insidious, so general in its attacks.

All kinds of animals were affected, and he believed it was no exaggeration to say it was one of the greatest losses with which farmers had to contend. He remembered that at the first Veterinary Congress held in London, he thought in 1880, an able paper on Tuberculosis, written by Mr. Smith, was discussed. At that time the tubercle bacillus was not known, and it was generally considered, not only by the profession, but by the owners of animals,

that the disease was attributable to a great extent to in-and-in breeding, to feeding for early maturity, and some went so far as to say that artificial manures had a good deal to do with it. It seemed strange that since more had been known of the disease it had made a considerable advance. Unless they could put a stop to it—and that was a difficult matter, because of its insidiousness—it would become an even greater bane than it now was. It was unnecessary for him to deal with the symptoms of the disease. There had been some letters lately in the journals on the subject, and one writer said that unless they could detect Tuberculosis in the early stage they did not know their business. But he considered it was a most difficult disease to detect in the early stage, and even in the later stages many would have difficulty in distinguishing between consolidated lung, Pleuro-pneumonia, and Tuberculosis. He saw a good suggestion made the other day, which might probably be worth trying.

It was that they should inoculate some guinea-pigs with tubercle matter, which would generate the disease in those animals, and so enable them to satisfy themselves that it was Tuberculosis. He had spoken more particularly of the effect of the disease on the bovine species, but it was generally acknowledged that almost all animals might be attacked by it, not exactly in the same form, but very much on the same lines. It was thought a few years ago that horses were not susceptible to it, but there had been, he believed, some very clear cases in which it was shown horses were susceptible. Dogs, cats, and rabbits were susceptible to it. Pigs also had it—his experience was that they did continually. Some time ago he was speaking on the subject to a distinguished member of the profession, who said he knew of an instance of Tuberculosis in pigs. In going round the slaughter-houses of his town, he (Mr. Olver) was led to believe that, in that district at least, the pigs were quite as liable to take the disease as the cow, if not more so.

Poultry, it was proved, were susceptible to it. He remembered reading of the case in which a man, leaving his native village in the hills in Germany, where Phthisis had never been known, and serving for a period in the army, where he contracted the disease (Phthisis), went back home and married. His wife died, and so did he from the disease, and the poultry at the house from eating the sputum of the patients became affected, and so conveyed the complaint to the poor people by whom they were consumed, and so Phthisis was spread throughout the village. Tuberculosis was unquestionably communicable from animals to man, and *vice-versa;* and this made it more important than many other diseases with which they were acquainted. It had been a question of some discussion as to how it might be communicated from one animal to another, but he thought it was pretty generally recognised at the present time that it might be handed from one animal to another by ingestion of food or milk, inoculation, or inhalation.

It was said one bull might spread it amongst a whole herd, and the bacillus had been detected in the placental membranes of the female.

He believed there had been a question up to a short time ago, as to whether milk could be affected and could transmit the disease.

Professor Brown asked him if he met with a bad case to send him the living animal, and shortly afterwards, finding a cow, which had calved three days before, suffering from acute Tuberculosis, he purchased her and sent her to the professor. He wrote back that, upon examination, he found the milk teeming with bacilli. Yet, so far as one could see, when the cow went from his neighbourhood, the milk was comparatively healthy, and if she had not been so disposed of the owner would have sold the milk. That being so, he thought there was no doubt milk would transmit the disease to the human population; the infantile population particularly were very liable to become

affected with Tuberculosis (Phthisis). He believed it was generally understood that the Tubercle bacillus was not found, as a rule, in the muscles of the animals or in the blood stream, but they knew it might be found in almost any part of the body. It might exist in the centre of a rump steak. It was a question, then, whether the flesh of animals affected should be used for human food. In the Midland counties generally, he believed the flesh of the great majority of these animals was eaten. Speaking generally, no doubt there were few cases in which Tuberculosis followed the consumption of the flesh of diseased animals, but he was inclined to think that in all bad cases the meat should be condemned. It was said, and no doubt rightly, that the disease was more generally found in large towns and crowded districts than in the country. That might be explained by the fact that the parasites would have less effect upon animals in strong healthy condition in the country than upon animals debilitated, as they generally were, in the towns. In the towns, cows were often fed simply to produce milk; they became generally more or less debilitated; their condition was often anything but a natural one; their sheds were in anything but a sanitary condition; and in such a state the diseased particles got a greater hold and increased in numbers, and in the end the death of the animal occurred. One branch of the subject he should like to mention was this: whether the Tubercle bacillus could be found in milk in which the udder itself was not actually affected. It was not an easy matter, in the first place, however, to detect whether the udder was or was not affected. It appeared to him a question whether, as a profession, they should not let it go forth to the public that this disease should be included in the Contagious Diseases (Animals) Act, and as to what would be the best means of escaping the danger which existed from it. If any action was to be taken, he thought it was absolutely necessary that the cow-sheds should be periodically inspected by qualified professional men. At present they knew the majority of dairies were inspected by policemen who knew nothing whatever about the subject. If it became known that the consumption of milk from tuberculous cows was dangerous, the public would compel the Government sooner or later to say that the inspection of dairies should become a matter for qualified veterinary surgeons only, that the inspections should be frequent, and that the inspectors should have power over the animals, and not simply over the cleansing and ventilation of the sheds. As the meat was more or less dangerous, it became a question whether slaughter-houses or abattoirs should not be inspected by veterinary men, who should have the power to prevent the sale of the flesh of animals which had suffered from Tuberculosis. Another thing which was necessary was, that notification of the existence of the disease should be made compulsory under some stringent law. No doubt a great many diseases of this kind were allowed to go on, the animals being put out of the way, and nothing heard of the matter. There should be compulsory notification of the disease, and then a qualified man called in, his opinion to be final, and acted upon at once. In Denmark he was told dairies were inspected every fortnight. He thought that in this country they should be inspected at least once every month or two.

In the course of the discussion which followed, Mr. PARKER said he had heard Mr. Olver's remarks with great pleasure. There was no doubt a great amount of tuberculous meat came to Birmingham. He was frequently consulted as to its fitness for human food, and invariably condemned it. He was astonished to hear Mr. Olver state that a distinguished member of the profession had said that Tuberculosis did not exist in pigs. He had seen it as often in pigs as in any animals. Not long ago he had a case in which there were large deposits of tubercle matter in the vertebræ. He had not seen so much of the disease in sheep as in other animals.

Professor WILLIAMS said he thought, as was the case with the Germ theory, knowledge of this disease had come with such a rush that a great number of diseases not Tubercle were apt to be included with it. They wanted to have laid down some exact rules which would assist them in saying whether an animal was affected with Tuberculosis or not. In cattle there seemed to be two distinct forms of Tuberculosis—that attacking "piners" or "wasters," and that from which fat cattle, fed for the Christmas market, suffered. He could not understand how it was that a disease due to a specific germ could have two such distinct characters, in one case causing pining, and in the other causing the animal to fatten. He did not think the disease could be exactly the same. He thought there was a tendency, when an animal had Fluke or an enteric affection, and abscesses were formed in the liver or kidneys, as the result of the absorption of deleterious matter from the bowels, to call it Tuberculosis. It was a most difficult disease to diagnose. He was firmly of opinion at present that the horse did not take Tuberculosis. The difficulty they had to deal with in settling the point was that the bacillus of Glanders and the bacillus of Tuberculosis were identical in size and shape. He believed the so-called cases of Tuberculosis in horses were really cases of Glanders. Another thing necessary to learn, was the period of incubation. Mr. Storey had demonstrated that the disease was transmitted by a bull to some cows, appearing in eleven days. He thought the majority of professional men would agree with him that unless there was a tubercle growth in the mammary gland, the milk was not affected. As to Tuberculosis existing in muscle, it was stated in a French work that in two cases which were examined not a trace of the bacillus was found in muscle. He had a specimen of a cow's heart, round which there was an enormous deposit of tubercle growth, whilst there was not a trace in the muscular tissue.

Mr. WOLSTENHOLME said he agreed with Professor Williams, that unless the mammary gland was affected the milk was not likely to produce Tuberculosis. He should think the mammary gland was one of those which were least frequently invaded by the disease. Boiling milk would destroy any bacilli it might contain. He thought they should do all they could to emphasise the point as to the better inspection of dairies, and the necessity of appointing veterinary surgeons to do the work. Professor Williams had expressed the opinion that there were two distinct diseases included under Tuberculosis; he (Mr. Wolstenholme) did not think that was the case, and for analogy referred to the fact that acute Glanders, with its rapid fatality, and chronic Farcy, sometimes lingering for years, were as unlike each other as Tuberculosis in piners and Tuberculosis in fat cattle; yet no one looked upon Glanders and Farcy as two distinct diseases. At one time he thought, like the Professor, that horses did not suffer from Tuberculosis, but he had now seen cases of what he could regard as nothing else than Tuberculosis is horses. Green evidently believed in Tubercle, and in his Pathology there was an illustration of the Tubercle bacilli of horses.

Mr. MALCOLM (Hon. Secretary) said they were indebted to the previous speakers for the lucid manner in which they had dealt with the subject before them. His practice was confined to horses, but he had not seen a case of equine Tuberculosis. Nevertheless he believed in its existence. Professor Williams had told them that he did not believe there was such a thing as Tuberculosis of horses, and that the so-called cases were simply mistaken Glanders, and that there was no difference between the Tubercle bacilli and the Glanders bacilli. But he seemed to have forgotten a very important fact which they ought to bear in mind, and that was the clinical aspect of the case. It was scarcely possible for any one to confound Glanders and Tubercle when looked at clinically. In the one case, they had a highly con-

tagious, rapidly spreading disease, which, if unrecognised, soon spread broadcast over the country; in the other, they had a malady of a very slow, insidious character. Amongst other cases recently recorded, one of what appeared to be hereditary Tuberculosis in the horse, described by Mr. Freer, of Uppingham, was of particular interest. The foals of one dam had died off one after the other from Tuberculosis. These cases could not be confounded with Glanders, and when in such like cases the presence of Tubercle bacilli had been demonstrated by competent authorities, as had been shown them that day, he thought they were fully justified in believing that Tuberculosis of horses did exist. He had seen the disease frequently in pigs, and was particularly struck with the case referred to by Mr. Parker, in which there was a tubercular deposit in the centre of the body of lumbar vertebræ. With reference to the percentage of the disease amongst cattle, it was stated at the British Medical Association meeting at Glasgow by Dr. Carpenter, that eighty per cent. of the cattle sent to the principal meat market in London were affected with it. Professor McCall, at the same meeting, said that twenty-five per cent. would be nearer the mark in Glasgow. In Birmingham it was not so prevalent, still it existed to a large extent. With reference to what had been said as to the danger of eating the meat and using the milk of tubercular subjects, muscle was particularly free from Tubercle, it was usually well cooked, and was not therefore a source of much danger. It was different with milk, which was generally consumed uncooked, and when from a tubercular source was very dangerous.

The PRESIDENT said he thought a resolution should go forth from that meeting, that the time had come when Tuberculosis should be made a contagious disease under the Act. The inspection of meat and milk supply should be improved, and placed in professional hands.

Mr. OLVER, in replying, said that in his practice he had seen many cases of what he believed to be Tuberculosis in horses, but only one case of Glanders. He thought also with reference to the milk question, that Tuberculosis was frequently found in the mammary gland.

On the motion of the PRESIDENT, seconded by Mr. STANLEY, a resolution was passed as follows: "That in the opinion of this Association, the time has arrived when Tuberculosis should be included in the Contagious Diseases (Animals) Act, and that the inspection of abattoirs and dairies, at present so imperfectly conducted in this country, should be improved, and transferred from police officers to qualified professional men."

A vote of thanks was accorded to Professor McFadyean for the loan of specimens of the tubercle bacilli exhibited at the meeting.

On the motion of Mr. W. S. CARLESS, seconded by the SECRETARY, a vote of thanks was accorded to Mr. Jones for his address; and on the motion of the SECRETARY, seconded by Mr. SMITH, a similar vote was accorded to Mr. Olver.

The usual vote of thanks to the PRESIDENT brought the meeting to a close. Subsequently, the members of the Association and visitors dined together, the PRESIDENT occupying the chair, and Mr. PARKER the vice-chair.

"The Health of the Visitors" was given by Mr. PARKER, and acknowledged by Professor WILLIAMS and Mr. WOLSTENHOLME.

The next meeting of the Association will be held in Birmingham in February, when Professor Penberthy will give an address.

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE quarterly meeting of this Association was held in the County Hotel, Newcastle-on-Tyne, on November 9th, 1888, Mr. D. Dudgeon presiding.

Present: Members, Messrs. J. Gofton, C. Stephenson, Wm. Temple, J. E. Peele, W. Grieve, Wm. Stevenson, G. Farrow, jun., W. A. Hancock, J. W. T.

Moor, Wm. Hunter, A. Chivas, G. Elphick, and G. R. Dudgeon; Visitors, Messrs. R. Brydon, M. Clark, J. McIntyre, Wm. Trotter, J. B. Cookson, E. Charlton, J. B. Lee.

Apologies for non-attendance were received from Professors Williams and McFadyean; Messrs. W. T. Briggs, W. J. Mulvey, J. E. Tudor, J. Malcolm, C. Sheather, T. Briggs (Bury), Wm. Hunting, C. Perkins, C. Winteringham, and W. B. Van Hansbergen.

The PRESIDENT suggested, as there were several breeders of stock present, they should at once proceed to the discussion of Mr. C. Stephenson's paper on "Hereditary Unsoundness," which was read at the previous meeting of the Association. He need not say the subject was one of world-wide importance generally, and to breeders of horses in particular. Although they all concurred in the fundamental principle that "like begets like," he believed that there were a great many difficulties in connection with the breeding of horses which even that did not bear out. He said he was glad to see present gentlemen who did not belong to the Association, but who, he understood, had much practical experience in horse-breeding, and they would be very glad indeed to hear their views on the matter and to have the results of their experience, which, after all, was often of a great deal more importance than the soundest theory.

Mr. STEPHENSON reopened the discussion by reading a few letters he had received from gentlemen to whom he had sent the report of their last meeting.

The PRESIDENT said the first disease mentioned in Mr. Stephenson's paper was Cataract, and suggested that they should take the opinion of the meeting as to whether it was hereditary or not.

Mr. R. BRYDON remarked that if a horse was born with a Cataract, he should believe it to be hereditary; but if Cataract was got as the result of accident, it was not.

The PRESIDENT here said it would be better not to confine themselves to one point, but to discuss the paper generally.

Mr. BRYDON said he listened to Mr. Stephenson's paper with very great interest at the last meeting, and since then he had had the opportunity of reading it, which he had done with equal interest. He thought it was a good paper when he listened to it, and after reading it he thought it was still better. He concurred with Mr. Stephenson in almost every particular. He thought Ringbones, Sidebones, Roaring, Navicular Disease, Spavins, shivering, bursal enlargement, odd feet, Greasy Legs, Mallenders and curby hocks were strictly hereditary under general circumstances. As he had just stated he did not think Cataract hereditary if caused by accident, but if it were developed early in life, without any appreciable cause, he would say it was hereditary. As far as his experience went, there were other things they had to avoid in breeding that were not strictly considered unsoundnesses. For instance, if they bred from a stallion with round bones, which no one could call an unsoundness, it was almost sure to be propagated in the produce. The same thing applied to upright pasterns, peculiarity in formation, action, or gait, and curby hocks. Those were things, perhaps, which no veterinary surgeon would consider himself justified in rejecting a horse for, because they were not technically considered unsoundnesses; but they were just as much, if not more, to be avoided, because they were most hereditary in his experience. They should always endeavour to have a stallion as symmetrical and fine-shaped as possible. He had known stallions, own brothers, out of the same mare and by the same sire, that were not at all alike in appearance, and the best-shaped horse always bred the best. It was very difficult to account for it, except that it was in the difference of shape. He thought if a horse developed Roaring from a very bad attack of Strangles, and was thoroughly sound before, he would not beget roarers, at least not necessarily so. In

fact, he had known cases to the contrary. He had also known old stallions which were grunters, and had never noticed any grunting in the majority of their produce.

Mr. C. CHARLTON said he would go even further than Mr. Brydon. He was satisfied from the results he had had that "like begets like." Several things had come to his knowledge. A gentleman two or three years ago told him he had a mare which foaled a foal without a foot, the mare having had her foot fast in a wire fence before she foaled. His brother had a ewe which had her foot nearly taken off, and she produced a lamb without a foot. He believed the mare he had referred to had her foot fast before she was put to the horse.

Mr. J. B. LEE said he had carefully read the valuable paper prepared by Mr. Stephenson, and, like Mr. Charlton, he concurred in it almost entirely. He had had some thirty years' experience in breeding horses, and had always found, if there was any peculiarity either in the sire or the mare, that peculiarity was almost certain to be developed, if not in the first generation, at any rate in future generations. He once put a valuable mare to a horse which was afterwards sold for a very large sum of money, but there was always a suspicion about the wind of this horse. He was passed as sound, but his produce was wrong in the wind. He had a case of malformation resulting from accident. It was a foal—a blood one—which was perfectly right in every way, and as strong as possible. It got its fore feet twisted in a gate; the feet were so much twisted that he did not think it worth while breaking the mare in. He put her to a horse, and she got a foal with twisted feet. He sold her at a small figure, and she turned out very valuable for going in a conveyance, and since then the purchaser had bred from her with the same result. He had noticed other peculiarities of a like nature, particularly where the horses had perhaps not curbs, but curby-looking hocks. If they put a mare to a horse—particularly in the blood line—with curby-looking hocks, they would be almost certain to get the same in the produce. He believed that almost every peculiarity was inheritable; even if it was the result of accident it was very often transmitted to posterity, although not always. There were certain things that were the result of accident, affecting particular parts, which he had not the slightest doubt would be transmitted. Before concluding, he should like to mention that he was the owner of a mare which was operated upon for Roaring. In that case they could not trace any roaring either to the dam or sire, but she developed the disease as the result of a severe cold. The mare was operated on by Professor Smith at Newcastle, but the result was not as satisfactory as he should have liked. There was no doubt she made a good deal less noise, but he believed she was not at all better for working purposes. In fact, on the contrary, he rather thought she laboured more in drawing a conveyance up a hill than she did before the operation, broke into a sweat on the least exertion, although not making as much noise as she used to do.

Mr. TROTTER said he had come to the meeting to learn all he could, rather than to make any remarks on the paper read by Mr. Stephenson. In the first place, he thought what the veterinary profession should do was this: they could scarcely now get unanimity in the profession as to whether an animal was unsound or not. That wanted to be settled, and then there would not be so much difficulty in arriving at the diseases which they had to guard against. He had kept stud-horses a good many years, and taken a good deal of notice as to the way they were bred. In regard to Laminitis, he did not think it was an hereditary disease. He had a horse badly foundered; in one season he covered 150 mares, and out of them there were 103 foals, and he had not heard of one of his foals having Laminitis. He had produced valuable stock. He could not think the disease was hereditary. He had had stallions with

Stringhalt, and he had seen their stock with Stringhalt, and the more fully developed it became the more hereditary it was. One stallion he had which pulled his hind legs too high up, and he happened to have a stallion by him which did the same thing; and the other day he saw a mare by this stallion, and she did the same. Here Stringhalt undoubtedly existed in three generations. He hoped the veterinary profession would agree as to which was a sound animal and which was not, and then they would not be so much in the dark.

Mr. ELPHICK said he had not the pleasure of being at the last meeting to hear Mr. Stephenson's paper read, but had looked it through, and thought they might all congratulate Mr. Stephenson on the ability with which the paper was drawn up. As regarded hereditary unsoundness, he thought there could hardly be two opinions about it. They all knew perfectly well that any defect in eyesight, such as Cataract, was hereditary; whistling, roaring, and grunting were hereditary, and all those bony depositions, such as sidebones, splints, and spavins, were also hereditary; and there were many other diseases, such as curby-hocks and action. He thought it was a question which should be looked to more than it was in breeding animals. They all knew that horses which threw their feet about were not so valuable when they came to be sold, and in many instances they were dangerous to ride. With regard to Laminitis, he thought that bad formation had a great deal to do with it, and if they saw horses with that development they should be perfectly justified in rejecting them. There could not be two opinions in regard to hereditary unsoundness, but the great thing was what Mr. Trotter had alluded to—unanimity of opinion as to when a horse was sound and when he was not. He maintained that in these questions it was only after a large amount of practical experience that a man was able to determine as to the soundness or unsoundness of an animal submitted to him, and by manipulation one man could detect a thing much more quickly than another. It could only be done by practice, and those were the men who should be appointed as examiners in the show-ring to give a decided opinion, and it should not be left to one individual; there ought to be two or more veterinary surgeons appointed to examine, and the opinion of the majority should be final. He thought, if something was done in the matter, there would not be so many disputes as there were at present. Mr. Charlton had spoken about a foal being born devoid of a foot, owing to some injury the mare had received during the time of pregnancy. It was very important that all breeding animals should be in a perfectly healthy state at the time of copulation, and be kept in as free and natural a state as possible at all times.

Mr. J. B. COOKSON said what had fallen from Mr. Elphick and Mr. Trotter, as to the difficulty of veterinary surgeons in being able to agree, he should like to make a few remarks. He had the privilege at Nottingham Show of seeing a great deal of what went on in the veterinary department, and he must say that as an amateur buyer of horses, and also having frequently had the honour of being a judge in the show ring, he never saw gentlemen take more trouble and be more careful than the gentlemen who had the onerous duty of examining the horses; and as he had frequently shown horses, he thought the least a man could do when he submitted his horse, and there were three gentlemen appointed to examine horses, was to take their verdict in a proper way. He believed that if they were able to follow carefully the history of those which were cast at Nottingham, they would find that many horses over which trouble occurred had been sold for insignificant sums by their owners, and he could only suppose himself that they were sold at a low price because they knew something themselves. There were certain horses which were passed by the veterinary examiners at other shows which were disqualified at the Royal show at Nottingham; but he thought he was

rightly informed that those gentlemen had instructions given them as to how they were to examine the horses, and he was one of those who held that that was wrong in all circumstances. If they submitted horses for examination before the veterinary surgeons, and desired them to pass their opinions upon them, stallions especially, they should give a full and particular account of their horses. They must not be cramped or confined by any opinion of the committee of a show. Their duty was to give full information and expression to it on paper, to those who were responsible for the show, and that verdict should be acted upon by the committee. He thought that the new order which the council of the Hunters' Improvement Society had issued, as to veterinary examinations of their hunters at future shows, was not only wrong, but more than wrong. He thought it was the duty of gentlemen in the veterinary profession to hold out against that, and say when they examined a horse that they were willing to do so to the best of their abilities, but not to be guided by the opinions of people who were amateurs. He felt very strongly upon that point. He had gone into breeding, and formed a small stud for breeding half-bred horses. He was on the look-out for a stallion, and he was told it was sound, but the difficulty was to pass that horse to his satisfaction, or to the satisfaction of a committee of the gentlemen who "bossed the show." He could not help thinking that the easiest way for hereditary unsoundness to be decided upon, was that unless, as some gentlemen remarked, a certificate from a veterinary surgeon was produced to say that he saw that animal when it was suffering, the nature of the accident which caused the defect, whatever it might be, that horse should be unsound as shown to them. He maintained that when they judged a horse, as a four-year-old, as a two-year-old, or as a yearling, except in particular classes, they should judge that animal as they saw him, and not as he was going to be. If it was to be a weight carrier, or simply a yearling, they should judge as the animal stood. Why should not the veterinary surgeons judge the stallion as they saw him, unless they had the most explicit corroboration of any testimony brought before them, and that should be from a veterinary surgeon who attended the horse suffering from the accident which caused the unsoundness. He thought people would go to the show if they had a competent tribunal to examine their horses. He still stuck to the point, that it should not be one individual, but a body of three gentlemen who should be called in for all practical worth. That he thought might easily do, and the public, he was sure, would be satisfied. He believed all the unpleasantness which arose at Nottingham as to the debarring of horses, had been the best thing that ever happened for those gentlemen who took an interest in breeding. They found they could not send horses to be thoroughly inspected and examined by the veterinary profession with impunity, and therefore they would all take care to buy sound horses. They would be pleased to know that they could buy a sound horse, and what they were looking for. What he thought it was in the hands of the profession to tell them was, in what way they were to have their horses examined.

Mr. GOFTON said that after the remarks they had heard that day, it seemed to him that they must pretty nearly come to the conclusion which Mr. Stephenson had arrived at in his paper, when he said that they should only breed from perfect animals. After all the cases enumerated of acquired unsoundness reproduced he did not see what other conclusion they could come to. If the other things that had been referred to could be transmitted, he did not see how Laminitis could be kept out. It was in the whole system before it was fully developed. It generally came from over-eating or over-feeding, and some horses were more liable to it than others; but he could not see that there had been a fair test as yet, because it often happened in

the sire or the mare they were bred from; but they wanted two or three crosses before they could tell whether it would assert itself or not. If it could not be transmitted he could not see how other things could be transmitted to horses, which they were taking upon themselves to argue were hereditary.

The PRESIDENT remarked that Laminitis was one of the most serious diseases they had to contend with; reasoning and arguing on the same line as in other diseases, he thought Laminitis ought to be transmitted, or at least that there would be a predisposition to disease. If a mare or a sire was affected with Laminitis, their stock, when the exciting cause of hard work came upon them, would be more liable to the disease than in the case of animals not so bred. The greater part of his life had been spent in town practice, and he had had very few opportunities of noticing these hereditary diseases. But he had noticed of late years that Laminitis had very much decreased. He did not see nearly the number of cases that they used to have. Horses were treated in a much more sensible manner than they were twenty years ago.

Mr. MOORE said that at the last meeting he made a remark that he would not like to say that Laminitis was hereditary. He had since been thinking the matter over, and he was still of the same opinion. He said that even supposing a mare or a stallion got Laminitis, he should not himself have any hesitation in breeding from such an animal. It was not as though Laminitis was produced by defect. How often did they come across Laminitis resulting from indigestion, or from animals over-feeding themselves! He failed to see, if they got a case of Laminitis resulting from indigestion, that it rendered a mare or sire useless for breeding purposes.

Mr. CHARLTON asked if Mr. Moore would follow out the same law when a mare or a stallion that had been trampled on or received injuries resulting in a club-foot, and the mare had cast one of that stamp.

Mr. MOORE said he knew that acquired defects were transmitted. If they had a mare with a club foot some of her progeny would have it.

Mr. CHARLTON: But when you get Laminitis you get very near a club foot.

Mr. MOORE: Not quite; not what I would call a club foot.

Mr. CHARLTON: Well, very near. Would it not be as likely to transmit the one as the other?

Mr. STEPHENSON thanked the breeders for their attendance, and for the very valuable information they had given. It was information that veterinary surgeons had few opportunities to obtain, and information that shed a great light upon the subject before them. As to the defects of their parents, they must remember that some diseases might lie dormant till, or after maturity; as examples he mentioned Phthisis and Insanity in the human family, and Tuberculosis in cattle. The taint was there, although they could not detect it, and it only wanted certain changes in circumstances to occur for its further development. It was not sound reasoning to say that because a one, two, or three years old was free from the known defects of its parents, therefore those defects were not hereditary. Young horses were sold and they lost all trace of them, and when with maturity and work certain diseases were developed, the connecting link was lost. The more he thought of this subject, the more he was inclined to believe that every peculiarity in the animals they bred them from—good, bad, and indifferent—might be reproduced in the offspring, and was hereditary.

The PRESIDENT said he thought from the discussion they had had, and the information given by the breeders, what passed at their last meeting, and what Mr. Stephenson had said, they might take it that the diseases enumerated in Mr. Stephenson's paper were hereditary. The only disease that there seemed

to be any dispute about was Laminitis, and he felt very much inclined to agree with Mr. Charlton, that if other defects were transmitted it was very possible that Laminitis might be also transmitted. In the first place, in Laminitis they had often a very material alteration in the construction of the feet, and that material alteration he should say was very liable to be transmitted. However, experience seemed to be against them. Just after their last meeting a gentleman met him, and told him a somewhat remarkable story, for the truth of which he vouched. A girl, about thirteen or fourteen years old, met with an accident to her eye, he forgot exactly the injury; but the eye was looked to, and by and by she got married and her daughters, when born, had no defect in their eyes, but when they came to the same age as that at which their mother had met with her accident, their eyes gradually changed and became like their mother's. Reasoning on the same principle, it was very seldom they saw any young animals suffering from Laminitis. It was generally seen in aged animals, and if they looked at it in that light, they might expect that the progeny would be apt to develop the disease when they became of the same age at which the parents were affected. He thought that they, as an Association, agreed with Mr. Stephenson, but with the saving clause as regards Laminitis; they looked upon all the other diseases as hereditary.

Mr. CHIVAS remarked, that he did not go in altogether that Laminitis was hereditary, but if he had a foal which was predisposed to it, he should say do not breed from it.

The suggestion of the President was agreed to.

Mr. GOFTON proposed a vote of thanks to Mr. Stephenson for his paper. The subject was exceedingly interesting, and the discussion would no doubt be profitable as well. He had enjoyed the two meetings very much, and believed he had learnt something from them.

Mr. CHIVAS seconded the motion.

The PRESIDENT said he was personally under great obligation to Mr. Stephenson for having, at his request, bestowed so much trouble and labour on the preparation of the paper.

The motion was carried with cordiality.

Mr. STEPHENSON briefly returned thanks. He assured them it had been quite a labour of love, after he had promised his good friend Mr. Dudgeon to undertake the work. He had read up the subject, and the more he studied it and hunted up different authors, the more he had got interested. He concluded by moving a vote of thanks to the breeders who had come there to give them the benefit of their experience; personally he had learnt a great deal indeed. It would be a right good job if veterinary surgeons and breeders could meet a good deal oftener.

Mr. ELPHICK seconded the motion, observing that if breeders of animals who could trace their ancestors on both sides for generations, would take notes of cases of unsoundness, either hereditary or acquired, they would be able materially to guide veterinary surgeons to a proper conclusion. He also thought if they would avoid breeding from unsound animals there would be very little necessity for calling in veterinary surgeons, who would gradually disappear.

The motion was carried and suitably acknowledged by Mr. TROTTER.

Mr. Alfred Peele, of West Hartlepool, was nominated for membership.

The following office-bearers were then elected:—President, Mr. J. Gofton, North Shields; Vice-Presidents, Mr. H. Hunter and Mr. J. W. T. Moore, Newcastle-on-Tyne; Secretary, Mr. G. R. Dudgeon (re-elected), Sunderland; Auditors, Messrs. Moore and Hancock; Dinner Committee, Mr. Elphick, President, Vice-Presidents, and the Secretary.

The SECRETARY said he had received, on behalf of the Association, from

Mr. F. Billings, Nebraska, copies of his reports on Swine Plague and Texas Fever.

A vote of thanks to the President terminated the meeting.

G. R. DUDGEON, *Hon. Sec.*

LAHORE VETERINARY SCHOOL.

ON November 15th, the Viceroy of India, accompanied by the Lieutenant-Governor of the Punjab, visited this establishment. They were received at the entrance to the Pavilion by the Principal of the School, the Staff, and Members of the Board of Visitors. The Teachers of the School were introduced by the Principal, Mr. G. Kettlewell, as follows:—*Staff of the School.*—H. Pease, Esq., A.V.D., Veterinary Surgeon to Punjab Government; Dr. Rahim Khan, Khan Bahadur; Amir Shah, Assistant Surgeon; Mahtab Shah, Demonstrator of Anatomy; Gulam Hussain and Sirdar Shah, Hospital Assistants. The Principal conducted His Excellency the Viceroy and His Honour the Lieutenant-Governor to the table for the distribution of Diplomas, and gave a brief history of the School from 1882 to the present date. The Diplomas and Prizes to passed Students of last year were distributed. The new School Buildings were then inspected:—(1) Lecture Rooms and Museum; (2) Pavilion; (3) Horse Hospital for Paying Patients; (4) Horse Hospital Infirmary for Free Patients; (5) Dissecting House; (6) Canine Hospital. His Excellency the Viceroy and His Honour the Lieutenant-Governor then left by the eastern gate.

ADDRESS.

MAY IT PLEASE YOUR EXCELLENCY, YOUR HONOUR, AND GENTLEMEN,—The necessity for the Establishment of Veterinary Schools in India was brought prominently to notice a long time back by Mr. J. H. B. Hallen; and some years prior to the opening of this Institution in 1882 Mr. Hallen organised a Veterinary School on a minor scale at Hapur near Meerut.

The Hapur Army Reserve Depot Hospital was abolished about 1881, and the Veterinary students studying there at the time were transferred to this place, and Mr. Burke from that school was appointed Assistant Professor and Teacher of Anatomy here.

The Hapur students, both Civil and Military—forty-four in number—formed the nucleus of this school, and some fresh students entered here in the summer and winter sessions of 1882, making up a total for that year of 65. Out of this number 36 students from Hapur passed out the following year with diplomas of this school.

At present there is a considerable increase in the number of students attending, altogether 89—namely, 62 Civilians and 27 Military students.

In the spring of 1882 the premises we now occupy were purchased by order of Sir R. Egerton, at that time Lieutenant-Governor of the Punjab, and this formed the foundation of the Lahore Veterinary School.

With the exception of the School-house containing the Lecture room and Museum, there were no other buildings except a few servants' houses and small out-offices; and the compound was open all round with no shelter outside the verandah of the school, and no boundary wall, the place apparently being used as an open common.

In the meantime some sheds were built of wood-work and bamboo and reeds as temporary Horse and Cattle Hospitals; and the great wonder is that these buildings were not consumed by fire long before they had served their purposes, but they stood for years, and have only just been demolished.

In 1887 more land was secured, which afforded extensive room for new buildings, erected partly on the new land just secured, and in part on the old foundation. These include this Pavilion, a Cattle Hospital, large Horse Hos-

pital, Infirmary for Free Patients, Operating Theatre, Forge, Canine Hospital, Dissecting House, also a block of servants' houses.

Amongst the number the Pavilion we now occupy is the most prominent, and, I may say, one of the most essential of the buildings for educational purposes. While the Lecture-room is adapted for the theoretical teaching; this spacious structure is specially designed for the purposes of practical instruction.

Here clinical teaching and training in the mode of examination for soundness and the handling of animals is conducted.

The organs of sight and the organs of touch of the students are here brought into play with living subjects before them. Heretofore, all this part of the work had to be carried on in the open air and in the trying light and heat of the sun.

The Horse Hospital with its twelve loose boxes is, for all practical purposes, one of the best constructed buildings of the kind in India.

The Cattle Hospital, too, on a smaller scale, is a suitable building, and holds twelve patients, while the Infirmary for free patients contains twelve stalls. We have also given a plot of spare ground besides to the Horse Breeding Department, on which a stable has been built, in which the stallions, standing at Lahore, are located under the superintendence of the Deputy Commissioner of Lahore, and the change from the purlieus of the city to this elevated and open space has, in every way, benefited the horses.

There are a number of old buildings in course of demolishment, and, as the space is cleared, other buildings will, no doubt rise up in time. Amongst the number we hope to receive sanction for a suitable dwelling house for a resident House Surgeon and quarters for resident pupils.

With reference to the improvements which have been made, I have only to quote the words of the Director of Land Records and Agriculture, Mr. Steedman, in his last Report on the School, in which he said :—

"Considerable additions have been made to the school buildings during the year. The grounds have been levelled, unsightly hovels pulled down, and the hollows that were really cesspools filled up. It is hardly possible for any one who did not see the school site in its old condition to realise the enormous improvement that has been made. By this time next year it will, it is hoped, be possible to say that the school possesses its full complement of buildings."

All these changes have been carried out in Sir J. B. Lyall's time, as Lieutenant-Governor of the Province, with great liberality on the part of the Punjab Government, and we are indebted to Mr. Hilton as the architect and designer, and General Perkins, for the results shown in the mass of new buildings and in alteration for the better all round.

The expenditure on buildings and acquisition and repairs up to the end of last official year amounts to Rs. 53,708.

The annual expenditure from Imperial Revenue, which includes salaries, teachers, and contingencies, amounts to Rs. 19,754 per annum, while the annual expenditure from Provincial Funds for pay of minor establishment is Rs. 9,070.

Annual Income from Fees and Hospitals is about—

1885-86	..	..	4,594-8-6
1886-87	..	..	2,776-9-6
1887-88	..	..	3,600-13-9
	Total		10,971-15-9.

Average last 3 years, Rs. 3,657-5-3 yearly, and the total amount from this source up to March 31st, 1888, amounts to Rs. 16,221-15-8.

With reference to the number of patients in the hospital and the practice of the school, there are at present only twenty altogether, but in the healthy time of the year we are rarely ever overcrowded.

The class of patients now under treatment come under the heading of surgical cases, such as lameness from various causes, wounds, and injuries.

Cattle are often brought to us in advanced stages of disease, and so are some amongst our equine patients belonging to the poorer class of natives; the animals often being heavily drugged before they are brought to us, so that we have not only disease in a pure and simple form, but often the opposite, dangerous cases to deal with.

Our operations have not been confined to Lahore. On the contrary, we have patients sent to us from various out-stations in the Punjab, and some even from the North-West Provinces, chiefly for surgical operations and treatment.

We are also occasionally consulted regarding the ailments of the inmates of the menagerie, and the students on some occasions have the opportunity of seeing monkeys, bears, and other animals and birds even treated. As far as success is concerned numbers of really severe and almost hopeless cases from time to time have been saved, and, notwithstanding the dangerous character of the maladies we have to contend with, the percentage of mortality in surgical and medical cases is only a fraction over 6 per cent, on admissions.

The graduates and passed candidates from this school are designated "Veterinary Assistants," in contradistinction to the older class of practitioners, without primary education and with no kind of qualification whatever.

Since the school first commenced operations in 1882 one hundred students have passed the Board of Examiners as veterinary assistants of the first and second class, and favourable reports have been received on the useful and practical work accomplished by a large number of these veterinary assistants, in campaigning operations, in military hospitals and stations in time of peace, and in civil districts as well, and there is a great demand at all times for the services of passed graduates of this school.

Some useful text-books for the use of students have been published since the school first commenced operations, amongst others, "A Text-book of Anatomy and a Hand-book of Surgery and Medicine," by Assistant Professor Burke. A work on "Materia Medica," by Dr. Rahim Khan, Khan Bahadur, and also a book on "Bovine Pathology," by Lala Agai Sain, translator to the school, from a course of lectures delivered in the school, and for which Lala Agai Sain was awarded an honorarium by the Punjab Government.

In conclusion I beg permission to introduce the successful candidates of this year to receive the Diplomas and Prizes:—

1. Mehtab Shah, Graduate, L. V. S. Diploma, from Board of Examiners, and appointed as Teacher of Anatomy to the Lahore Veterinary School, with First Prize.

The following are the passed candidates as Veterinary Assistants of the First and Second Class:—

1. Sundar Singh, First Class.—(1) 1st Prize in Veterinary Surgery and Medicine; (2) 1st Prize in Anatomy and Physiology; (3) One Prize for General Proficiency; (4) 1st Certificate on Hospital Practice.

2. Mohamed Yusaf Khan, First Class—(1) First Prize, Bovine Pathology; (2) Certificate, Hospital Practice.

3. Asmatoola, Second Class.—(1) Certificate, Hospital Practice.

4. Karam Khan, Mountain Battery, Second Class.—(1) First Prize, Materia Medica; (2) Second Prize, Bovine Pathology.

5. Natha Singh, 19th Bengal Cavalry, Second Class.—(1) Second Prize, Veterinary Surgery and Medicine.

6. Wazir Mohamed, 19th Bengal Cavalry, Second Class.—(1) Certificate, Hospital Practice.

7. Bahadur Khan, 15th Bengal Cavalry.—(1) Certificate for handling Horses; (2) Certificate, Hospital Practice.

8. Jumla Shah, Transport Department, Second Class.

9. Ali Akbar Shah (Civil), Second Class.

10. Gholam Ashraf (Civil), Second Class.

The following candidates absent on Service and duty are entitled to Diplomas and Prizes, as follows:—

1. Sheikh Mohamed Ibrahim, 2nd Bengal Cavalry, Second Class.

2. Mian Singh, 1st Punjab Cavalry, Second Class.—(1) Second Prize in Anatomy and Physiology.

3. Ahmed Ali, Transport Department, Second Class.—(1) Second Prize in Materia Medica.

ROYAL AGRICULTURAL SOCIETY.

At the Monthly Council Meeting held on December 12th, Sir John Thorold (chairman) stated that Professor Brown had presented the following report:—

Pleuro-pneumonia.—In England, between the 29th September and the 1st December, sixty-nine fresh outbreaks of this disease were reported; 221 cattle were attacked, and 1,089 healthy cattle in contact were slaughtered. In Scotland, there were fifteen fresh outbreaks, fifty-two animals attacked, and 215 healthy cattle in contact slaughtered.

The total for Great Britain for the nine weeks were eighty-four outbreaks, 273 animals attacked, and 1,304 healthy cattle in contact slaughtered.

Anthrax.—There have been since the end of last quarter up to 1st December 30 outbreaks of Anthrax in Great Britain, 26 in England, and 4 in Scotland. The total number of animals attacked was 67, of which 48 were in England and 19 in Scotland.

Swine Fever.—There has been a marked decrease in the amount of this disease in Great Britain, since the end of last quarter. Up to the beginning of the present month 921 fresh outbreaks have been reported; 5,190 pigs have been attacked with the disease, of which 2,306 were killed, 2,064 died, and 480 recovered.

The investigations which have been made into the life history of the *lung worm* have already led to results which are very promising. It appears that the embryos of the worm do, as Dr. Cobbold suggested, inhabit earth-worms, but it has also been found that they undergo a certain amount of development in the lung tubes of sheep and calves, and it is at least probable that infected animals may directly infect others which are feeding in the same pastures.

A letter dated 30th November had been received from the Agricultural Department of the Privy Council, forwarding copy of an official report by Professor Brown on "Eruptive Diseases on the Teats and Udders of Cows in relation to Scarlet Fever in Man" (in which is included the results of the inquiry undertaken in accordance with the request of the Society made in June, 1887), and stating that, unless some special circumstances should render it necessary, it was not proposed to prosecute the inquiry further. The Committee recommended that the thanks of the Council be given to the Agricultural Department for undertaking this investigation.

Of the £500 granted to the Committee for 1888, they had expended £260 19s., and they moved for a renewal of the grant, of which they proposed that £200 be given to the Royal Veterinary College, subject to the same conditions as last year. The Committee had met nine times, and made nine reports.

Army Veterinary Department.

Gazette, December 11th.

Veterinary Surgeon F. Raymond, F.R.C.V.S., to be Veterinary Surgeon First Class, ranking as Captain. The following notification is substituted for that which appeared in the "Gazette" of November 27th, 1,888:—Veterinary Surgeon R. Moore, F.R.C.V.S., to be Veterinary Surgeon, First Class, ranking as Captain. The appointment of E. W. Larnder, Gent., as Veterinary Surgeon on probation, is vice Veterinary Surgeon, First Class, S. L. Pallin, deceased, and not as stated in the "Gazette" of November 27th, 1,888.

Veterinary Surgeons Nunn and Betser have left England for a tour of service in India. Veterinary Surgeon Cooper, who arrived in Europe a short time ago, in order to study M. Pasteur's system of protective inoculation at Paris, having completed the course of instruction, has also returned to India.

It is gratifying to be able to announce that Veterinary Surgeon J. H. Steel has so far recovered from his illness as to have been discharged from Netley Hospital, and has been granted an extension of leave for two months to ensure complete recovery before returning to Bombay.

The following Royal Warrant has just been issued, amending that of 1878, in so far as the Pay and Retirement of Veterinary Officers are concerned:—

Victoria R.

Whereas we deem it expedient to amend in certain respects the regulations relative to the Pay and Retirement of Veterinary Surgeons of Our Army. Our Will and Pleasure is that the following alterations shall be made in Our Warrant of the 15th November, 1878:—

1. The following shall be substituted for Article 399:—

399. It shall be Competent for Our Commander-in-Chief, on the recommendation of the Principal Veterinary Surgeon, to select every year, with the approval of Our Secretary of State, a number of Veterinary Surgeons who shall be retained in the Service.

2. The following shall be added after Article 406, under the head of "Voluntary Retirement":—

406*a*. Veterinary Surgeons appointed after the 22nd April, 1878, may be permitted to retire on the completion of ten years' Service, with a gratuity under Article 1075, in cases in which retirement may be deemed expedient by Our Secretary of State.

3. The following shall be substituted for Article 407:—

407. The services of a Veterinary Surgeon, appointed after the 22nd April, 1878, may be dispensed with on the completion of ten years' Service, and he shall in such case be granted a gratuity under Article 1075.

4. In the table of pay, in Article 396, the following shall be substituted for the rates laid down for Veterinary Surgeons of the 1st Class:—

	£	s.	d.
Veterinary Surgeons of the 1st Class	0	16	0
If promoted to that rank after the 31st May, 1888	0	15	6
After 5 years' service in the Class	0	18	0
If promoted to that rank after the 31st May, 1888	0	17	6
After 10 years' service in the Class	1	0	0
„ 15 „ „ „ „ „	1	2	0
„ 30 „ total service	1	4	0

5. In Article 1075 the following shall be substituted for the first line, under the heading "Gratuity."

If retired under Article 406*a* or 407 .. .. .. £800 0 0

Given at Our Court, at Balmoral, this 20th day of October, 1888, in the 52nd year of Our Reign.

By Her Majesty's Command.
(s.) EDWARD STANHOPE.

The following appeared as an Army Order, dated November, 1888, No. 488 :—

Veterinary Surgeons of Volunteer Batteries of position will wear the uniform of the Army Veterinary Department, silver being substituted for gold in lace and ornaments.

Obituary.

The following deaths have been reported from various registrars and through the Post Office :—

Allen, Edward, Dublin	graduated	1878
Potts, Leonard, Wigton	"	1859-79
Flower, Henry, Derby	"	1857
Harrison, J., Warsop	"	1857-79
Clayworth, J., late London	"	1861
Evans, George, Somerset	"	1851
Auckland, J., Inverness	"	1840
Briggs, D., Cumberland	"	1839
Berry, J. P., Northampton	"	1864
Bell, R. T., Wokington	"	1874-76
Cox, A. S., Salford, Lancashire	"	1866
Garner, B., St. Ives, Huntingdon	"	1845
Holt, H. L., Northallerton, Yorks	"	1859
McFarland, A., Perthshire	"	1843
Case, F., Godmanchester, Huntingdon	"	1834
Moreton, R., Burton-on-Trent, Staffordshire	"	1877
Reeve, Joseph, Bridgwater, Somerset	"	1849
Packwood, W. A., Coventry	"	1828
Stewart, Geo., Perth	"	1861
Sharland, T. W., Devon	"	1842
Symes, Chas., Wincanton	"	1837
Semple, Wm., Dumbarton	"	1875
Wallace, Wm., Glasgow	"	1882
Young, John, Lanarkshire	"	1872
Young, William, Deen, Peeblesshire	"	1834

Notes and News.

THE COLLEGE OF STATE MEDICINE.—Professor Brown and Dr. Fleming have been appointed members of council of this College.

HORSES IN EARLY TIMES IN SCOTLAND.—In the 13th century we find that Roger Avenel, Lord of Eskdale, had a stud of horses in that valley. Patrick, Earl of Dunbar, in preparation for his departure to the Holy Land (A.D. 1247), sold to the monks of Melrose his stud of brood mares in Lauderdale, for the considerable sum of 100 merks sterling. Alexander III. had several establishments for rearing horses, to be used in hunting, doubtless, as well as in war.

HORSES IN THE TIME OF CHARLEMAGNE.—An ordinance or Capitular (*D Villis imperialibus*) of Charlemagne's, drawn up in A.D. 812, is illustrative

of the manners of his time. Among other things, it enacts that the *Judex* or Steward of each Villa was to provide stallions, that care was to be taken of the stud mares, and the colts were to be separated at the proper season; the stables to be thoroughly prepared. There were to be good artificers, particularly blacksmiths; and at Christmas, in giving an account of their administrations, among other items, mention was to be made of what was derived from blacksmiths, and from colts and fillies. "Our cars for war to be litters well made, covered with hides so closely sewn, that if necessity occurs for swimming rivers, they may pass through (after being lightened of their contents) without water entering."

An Expensive Race-horse.—It is reported that the Duke of Westminster has sold Ormonde to Mr. John Morris, of New York, for £17,000. Ormonde will shortly be removed from Eaton Hall stud stables to Newmarket, where he will remain till June, after which he will go to the States.

Foreign Exports of Horses.—Germany imported in the last year 73,519 horses and exported 11,428; in 1886 there were imported 72,748 and exported 14,000. The import of France in 1887 was only 10,000, the export 34,518 horses (amongst them 3,820 stallions and 8,865 mares), at a value of 31,000,000 francs.

Contagious Pleuro-pneumonia in the United States.—A meeting of the American National Cattle Growers' Association was held at Chicago during the stock show. Dr. D. E. Salmon, superintendent of the Bureau of Animal Industry, gave a few figures, showing the number of herds of cattle which had been inspected in the search for Pleuro-pneumonia during the year. There had been examined 274,255 head of cattle, and this inspection did not consist in looking over the fence at the animals, but was a careful examination of each individual animal, on the look-out for those infected with Pleuro-pneumonia. Of those examined 2,330 were found infected, and slaughtered. Also 4,778 head of cattle which had been exposed to the disease were killed. The doctor then divided the figures given, showing how many were found in each State. In the majority of States the disease had been entirely eradicated, and the rest, although not entirely free, were almost so.

Horse Breeding.—The Second Report of the Royal Commission on Horse Breeding has been issued. It reports the result of the show held at Nottingham last February, and states that at that show a considerable proportion of the stallions exhibited were disqualified on the ground of hereditary unsoundness, and this fact alone justified the policy adopted by the Commissioners. They express the opinion that no change in the distribution of the grant is necessary, and that it will be advisable in the ensuing year to follow on the same lines, and again offer premiums for thorough-bred stallions suitable for getting "half-bred horses" of general utility. It is proposed that these Queen's premiums shall be offered at a show in conjunction with that of the Royal Agricultural Society, the Hunters' Improvement Society, and the Hackney Horse Society, to be held in London in February. The report is signed by the Duke of Portland, the Earl of Coventry, Lord Ribblesdale, Mr. Chaplin, Major-General Ravenhill, Mr. Jacob Wilson, Mr. John Gilmour, and Mr. Bowen-Jones.

A Phenomenal Mass of Suet.—A Scotch newspaper had the following announcement some time ago:—"A Perth butcher has for the last few days been exhibiting in his shop window a lump of fat of phenomenal size, taken from the carcass of a bullock. The fat weighed exactly one hundredweight, along with the kidneys, when taken from the carcass. The animal was a cross-bred bullock, fed by Mr. Tod, Gorthie Mains. During the last week several hundreds of persons have visited the shop, some of them eminent butchers from England, and all aver that never in the whole of their experience have they seen anything similar."

Correspondence.

TESTIMONIAL TO MR. CARLISLE.

DEAR SIR,—At a meeting of the Border Counties Veterinary Medical Society, held in the Bush Hotel, Carlisle, on the 26th October, 1888, Professor Williams said:—

"He believed he was correct in stating that their old friend, Mr. Joseph Carlisle, of Carlisle, was about the first, and he certainly was the oldest qualified veterinary surgeon in the county. Although verging on four score years, his hale, hearty, and stalwart form was to be envied; then the enthusiasm and love he had for the profession were unqualified, and he (Professor Williams) would like to see Mr. Carlisle's portrait hanging in the Council Chamber of the Royal College of Veterinary Surgeons, London, alongside that of his old friend, Mr. Thomas Greaves (loud cheers) He had great pleasure in proposing that Mr. Carlisle's portrait be painted in oil, or that an enlarged carbon photograph be procured, and that a Committee be appointed to carry out the object."

Mr. Thomas Greaves, Manchester, seconded the motion, which was unanimously adopted by the members present.

Should the above proposition meet with your approval, and you would like to give the object your support, a contribution will be thankfully received (until the 21st December) by

Mr. John Bell, V.S., Carlisle, President of the Society.
Mr. Henry Thompson, V.S., Aspatria, Treasurer of the Society, or
Mr. John Armstrong, V.S., Penrith, Secretary of the Society.

P.S.—Mr. Carlisle's photograph has been taken by Messrs. B. Scott & Son, Carlisle, and several private gentlemen have already subscribed to the fund.

Penrith, *Nov.* 21*st.* JOHN ARMSTRONG, *Hon. Sec.*

BORROWED MATTER.

DEAR SIR,—At a meeting of the Lincolnshire Veterinary Medical Association, I read a paper on "Colic in Horses."

I find in "Bell's Messenger" a verbatim copy of my paper, which must have been taken from one of the journals. Will you kindly inform me whether there is a remedy for such a proceeding? as personally I have a strong objection to details of treatment appearing in the public press.

Huntingdon, *Dec.* 13*th.* JAMES SMITH.

[There is no remedy for reprinting articles in this way.—ED. *V. J.*]

QUACKERY.

SIR,—I agree with your correspondents in condemning the conduct of members of our profession who, for some inscrutable cause, bolster up quack horse and cattle medicines by appending their names to testimonials as to their virtues. A pretty compliment it is, forsooth, to their own therapeutic or pharmaceutical lore, when they have to use medicines the composition of which is unknown, and compounded by persons ignorant, no doubt, of the nature of the drugs which they mix and of the diseases which their nostrums are intended to cure.

I have no hesitation in saying that these quack medicines are responsible for the deaths of many valuable animals, besides being a source of constant annoyance and very serious loss to country practitioners. I speak feelingly, because my own practice has been harmed, and I have many bickerings with my clients about the use of these never-known-to-fails.

It is sufficiently hard, in all conscience, for some of us to make a decent living, and there is plenty of opposition of one sort or another without members of our own profession, some of them you will observe in snug places where they have no fear for the morrow, seeking by their ill-advised action to hinder us.

"NEFAS."

PROFESSIONAL PROGRESS.

SIR,—At the meeting of the N.V.A. held in this city, we were told by the very learned gentleman who presided that our profession "during the last few years had made considerable progress both in theory and practice." Some of us accept this *cum grano salis*.

We have constant and recurring proof that the theory of the schools and their outline of practice is ineffective in turning out thoroughly capable men. If the present system is as successful as is claimed for it, how is it that so many of the recent graduates anxiously advertise for situations where they can see practice, irregardless of remuneration?

Without being hypercritical, it occurs to many of us that the teachers themselves are not practitioners in the strict acceptation of the term; this being so, it is a case of the blind leading the blind. No one denies that many are past masters in sophistry, in the definition of plausible routine, whereby disease may be measured and treated by rule of thumb. An amusing instance illustrates how absurd notions sometimes run counter to both professional and common sense. It was in the earlier days of the use of the thermometer as a veterinary adjunct. In advocating its use, a *confrere* stated that if any one sent him the correct reading he could not only define whether the subject was ailing, but could diagnose the disease. This especially held good with respect to C. Pleuro-pneumonia. It rather astonished some of us, who knew that with the advantages of a personal examination he was guilty of frequent *faux pas*.

The rule of thumb teaching of the schools is of all methods the most empirical, and why they should wish to make it more so is difficult to understand, unless it is to render the profession independent of diagnostic skill. Doubtless it will suit the kid-glove, be-ringed fraternity. It might also suit owners of animals who possessed a fair share of experience, as they could tell these gentlemen the *nature* of the malady, and they could then prescribe per the book.

A great deal was said about social and professional distinction. These are as distinct and separate as possible. By far the greater number of the social successes in our ranks have attained that grade without any professional brilliancy or ability, and by the aid of fortuitous circumstances. Some are born with the proverbial silver spoon in their mouth, or are pitchforked willy-nilly into a lucrative business, where, without professional merit, they soon become pompously important. The same run of luck may have given them their advent into our ranks. Depend upon it, the success of a good few depends on their consummate impudence, the cut of their clothes, or the style of their turn-out; brains and ability have the least to do with it.

It is an inexplicable paradox that a manufacturer should object to the introduction of his *own* ware into the market, and yet this is the position the worthy gentleman falls into when in a lugubrious manner he bewails the overstocking of our market. We ask him, Who overstocks it? and with what ware? It is not competition we of an older school object to: the keener it is the better; it puts a man on his mettle, and with "a free course and no favour" we say, let the best man win. Query, Will it be the recent additions? Had something been said of the spirit of hostility, the false and

insinuating method, the unfairness displayed by many of currish spirit, "who, willing to wound, are yet afraid to strike," some, had they sense of shame, might have profited thereby; but no, nothing was said of this; we were rather told of duties we owe the profession. We think good doctrine, like charity, should be well sampled and practised at home, and this we recommend to public posturists whose "evil manners live in brass and brass their face." It is not always the "new" men or the poor men who are guilty of "cutting." It is notorious that there are large firms, especially large as far as parade goes, and who by such means have climbed into fictitious importance, that snap at everything, taking a greatly reduced pay, meeting this by employing a pupil, who after the first month or two is dubbed assistant, or else a graduate who, having gone straight to college from an office, or from a grocer or an ironmonger's shop, has scarce *nerve* enough to attempt to practise for himself, although he has a diploma, but would rather learn experience at the expense of his employer's clients. Whether this is honourable or honest we leave you to judge.

Speaking especially of "new" men, so far as we know them, they are acquit of "cutting," for if not otherwise professionally accomplished, most of them are *au fait* in bill-making. It is very desirable that such graduates as are not practical should become so; but that they should learn their business at the expense of owners of animals is an imposition and a fraud, and that a practical training is best given prior to a collegiate course cannot be doubted. We all assume too much on our graduation, and with ideas of this kind a few months' practice is often considered sufficient. A case in point: A graduate who had no previous training, after receiving his diploma, spent five or six months in a practice where one cob was kept, but it was amply sufficient to make, in his own estimation, the "only cattle practitioner" in the district where he settled, although there were several with a longer period of very extensive practice than he numbered years in age, and of very much higher scholastic attainments. Naturally, this brilliantly able young gentleman made a series of blunders, but by great personal canvass and constand sounding of his own trumpet he makes headway. The Professor took it upon himself to criticise professional writers to public papers; his observations are ambiguous and invidious, the last in its application to *some* of us, whilst others write nothing but what finds favour in the eyes of the learned critic. Perchance the latter are a certain clique, or they clothe their language in that ambiguity so delightful to his worthy soul. Despite a disclaimer from the profession, we take up the question on personal grounds, and the language was so pointed that on all hands we were told of it. In the disclaimer we are candidly told that the learned gentleman had never read anything of ours; this being so, we think his observations were in bad taste, unless he can show that harm has been done either to the profession or to stock-owners, and this we defy him to do. Unlike the Professor, we are not *facile princeps* with the pen, nor do we occupy the chair at a college, nor have we the voice facility of Picaloquax, but we have many years' experience in active employ in full and varied practice; and with all due deference to his great talents, we should neither fear to go before or after him in a professional capacity. Further than this, and what is more to the point, our efforts have been to elevate the profession by showing that we were as anxious to prevent disease as to treat it, and where we have advised treatment, as we have done in some cases, it has been to prevent the indiscriminate and foolish use of the agents supplied in medicine chests that some firms flood the country with. More, we have always advised in all difficult cases promptitude in seeking veterinary aid. So much for the learned gentleman's tempest in a teapot, which, perhaps, would not have been raised, save by instigation. There are other things connected with the

meeting that are worthy of notice, but time and space allow only of a cursory one. We should like to ask, Is the operation for Roaring a success? We do not mean has it made an improvement only? but will it pay the owner to have it done? From what we hear, it will not. The discussion on diseases of the feet was lamentably lacking, and we would that some who took part in the meeting would turn to the *Veterinary Record* and the Transactions of the Veterinary Medical Association; but there were giants in those days. We note that one said he would bleed and give a full dose of physic. What about Metastasis? What did the mutual hand-shaking of the Society and the S.P.C.A. do for the promotion of the objects of the latter? We trow nothing. Had they told us something about Concussive Fever (hot feet) and how to prevent and relieve it, the poor, suffering animal, if not the Society, would have been grateful.

Newcastle-on-Tyne, *Dec. 13th*, 1888. W. Cox, M.R.C.V.S.Lond.

HAPPY THOUGHTS.

Sir,—I beg leave to propound the following: 1. It is desirable, when a meeting of the members of an association is announced for 2.30 p.m. precisely that it should take place at that hour, and not at 3.15.

2. It is sometimes desirable that the convivialities connected with the meeting should take place after the meeting.

3. It is undesirable that a number of members who do not wish to join the festive board should be kept waiting while the president and his cronies are discussing mine host's wine and their own yarns.

4. It is undesirable to call the president "your worship" at the meeting, either intentionally or otherwise. Sack.

Communications, Books, Journals, etc., Received.

Communications have been received from Messrs. Arnold and Sons, London; T. Bowditch, California; F. J. Short, A.V.D., Aldershot; T. Greaves, Manchester; H. W. Steel, A.V.D., Netley; R. W. Burke, A.V.D., Jubblepore, India; "Sack;" F. Raymond, A.V.D., Woolwich; G. Wartnaby, Burton-on-Trent; J. A. Meredith, A.V.D., Mhow; Messrs. Burroughs, Welcome and Co., London; T. Hopkin, Manchester; W. F. Greenhalgh, Leeds; J. Smith, Huntingdon; A. H. Thomas, Preston; H. Kidd, Hungerford; S. Villar, Harrow; A. M. Crighton, Lisburn, Ireland; W. R. Davis, Isle of Man; "Nefas"; G. R. Dudgeon, Sunderland; W. Cox, Newcastle-on-Tyne; J. Malcolm, Birmingham; Professor McCall, Glasgow; A. W. Hill, London,

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Books and Pamphlets: *A. Liautard*, Lameness of Horses and Diseases of the Locomotory Apparatus; *Dr. D. J. Ferran*, Revindication de la Priorité de la Découverte des Vaccins du Choléra Asiatique; *A. M. Davies, M.D.*, The Food of the Soldier; *W. S. Adams, A.V.D.*, Professional Notes on a Voyage to Australia and on a Voyage from Melbourne to Madras in a Horse-ship; *C. G. Buchanan Klophel, M.D.*, Tuberculosis; Transactions of the Pathological Society; Bulletin et Mémoires de la Société Centrale de Médecine Vétérinaire.

Journals, etc.: *Journal of the Agricultural Society of Victoria; Echo Vétérinaire; Thierärzt; Wochenschrift für Thierheilkunde und Viehzucht; Lancet; British Medical Journal; Hufschmied; Journal de Médecine Vétérinaire; Clinica Veterinaria; Recueil de Médecine Vétérinaire; Annales de Médecine Vétérinaire; Edinburgh Medical Journal; Repertorium der Thierheilkunde; Revue Vétérinaire; Medical Press and Circular.*

Newspapers: *The Carlisle Journal; Lahore Civil and Military Gazette; Sydney Daily Telegraph* (2 copies); *Eastern Counties Gazette.*